

Impacts of Select Sociocultural Practices on Maternal Mortality in Nigeria: A Scoping Review

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Submitted By

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ABSTRACT

Maternal mortality is a national health challenge which remains unresolved in Nigeria. According to the WHO (2015), maternal mortality rate was 814 deaths per 100,000 live births, making Nigeria the fourth highest in the world and second highest in West Africa. The primary causes of maternal mortality often highlighted are biomedical. However, there are also non-biomedical causes that limit the use of maternal health services and increase the risk of maternal mortality in developing countries, like Nigeria. There is minimal research on the impact of these non-biomedical causes (such as sociocultural practices) on maternal mortality. The objectives of this research are to identify literature impacting maternal mortality in a positive, neutral or, negative way.

Using the scoping review, sociocultural factors/practices impacting maternal mortality were explored. A total of 35 articles were included in the final scoping review following the Joanna Briggs Institute Manual and Arksey and O'Malley framework. The PEN-3 model was used as a conceptual framework to identify positive, neutral, and negative sociocultural practices. Omugwo and rooming in, pregnant women lying on their sides are examples of positive sociocultural practices that potentially minimize the risk of mortality, while poverty, poor maternal education, early child marriage, and female genital mutilation are examples of negative sociocultural practices increasing the risk of maternal mortality.

Major findings reveal the uniqueness and impact culture plays on health and health behaviour and corroborate the need to address the impact of sociocultural practices if a reduction in maternal mortality is to be achieved. The unacceptable high maternal mortality rate in Nigeria also suggests the need to implement culturally appropriate interventions and strategies if the sustainable goals are to be achieved by 2030.

Keywords: Sociocultural, values/beliefs, maternal mortality, pregnancy, childbirth, postpartum

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DEDICATION

This thesis is dedicated to the Almighty God – Our refuge and fortress, and the giver of life.

Also, dedicated to my family – Husband and daughter for their unfailing and unwavering support, sacrifices, and motivation to ensure I achieve this great academic feat.

I also dedicate this work to all families who have lost a loved one during pregnancy, childbirth, or postpartum period. I pray you find comfort.

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ACRONYMS

AIDS:	Acquired Immune Deficiency Syndrome
APHRC:	African Population and Health Research Center
CIHR:	Canadian Institute of Health Research
FGM:	Female Genital Mutilation
GAC:	Graduate Advisory Committee
HIV:	Human immunodeficiency Virus
JI:	Joanna Briggs Institute
MMR:	Maternal Mortality Rate
MDG:	Millennium Development Goal
NDHS:	National Demographic and Health Survey
NHIS:	National Health Insurance Scheme
REB:	Research Ethics Board
SDG:	Sustainable Development Goal
SDH:	Social Determinants of Health
TBA:	Traditional Birth Attendant
UN:	United Nations
UNESCO:	United Nations Educational Scientific and Cultural Organization
UNFPA:	United Nations Population Fund
UNICEF:	United Nation Children’s Fund
WHO:	World Health Organization

DEFINITIONS

Child marriage – Child marriage is defined as a marriage of a girl or boy before the age of 18 and refers to both formal marriages and informal unions in which children under the age of 18 live with a partner as if married (UNICEF & UNFPA, 2018)

Female genital mutilation - Female genital mutilation (FGM) comprises all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons (WHO, 2016)

Maternal mortality - Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy, or its management but not from accidental or incidental causes (WHO, 2018).

Millennium development goals - are eight goals with measurable targets and clear deadlines for improving the lives of the world's poorest people (United Nations, 2000)

Sociocultural – Sociocultural is a term related to social and cultural factors, which means common traditions, habits, patterns and beliefs present in a population group

Sustainable development goals - A global agenda, adopted by countries in 2015, with a vision of ending poverty, protecting the planet, and ensuring that all people enjoy peace and prosperity (United Nations, n.d.)

Traditional birth attendant - A person who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants (WHO, UNFPA, & UNICEF, 1992)

Chapter 1 Introduction

Maternal mortality is a global health challenge which remains unresolved (World Health Organization [WHO], 2015a). The United Nations invited world leaders to a pivotal summit in 2000 on how to tackle the epidemic (United Nations, 2000) and the millennium development goals (MDGs) initiative was adopted as a global effort to address maternal mortality (WHO, 2018; WHO, 2015b) amongst other priorities, such as poverty, HIV/AIDs, vulnerable populations, conflicts/security challenges, and unity of the United Nations countries (United Nations, 2000). The overall aim of the fifth MDG initiative was to improve maternal health by reducing the global burden of maternal mortality by 75% and improve universal access to reproductive health by 2015 (United Nation Children's Fund, [UNICEF], 2018; WHO, 2015a). Although the target was a 75% global reduction by 2015 from the 1990 mortality rates, only a 44% decline was realized over the period of 25 years (UNICEF, 2018; WHO, 2015a). That is a reduction from 385 to 216 deaths per 100,000 live births in 1990 and 2015 respectively (UNICEF, 2018; WHO, 2015a). Due to the inability to achieve a three-quarter reduction in maternal mortality targeted at 2015, the UN adopted 17 sustainable development goals (SDGs) that should be achieved by 2030 (Mberu, 2017; 28TOOMANY, 2016). The SDGs focus is primarily on “people, planet, prosperity, peace, and partnership” (28TOOMANY, 2016, p. 14) and aim to eradicate major issues (e.g., female genital mutilation; poverty, gender inequality) contributing to maternal mortality. The reduction in the high maternal mortality rate will be one of the yardsticks to measure progress in global development by the year 2030 (Okonofua, Ntoimo, & Ogu, 2018) especially in Nigeria.

“Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause

related to or aggravated by the pregnancy or its management but not from accidental or incidental causes” (WHO, 2018). The primary causes of maternal mortality most often highlighted are biomedical such as hemorrhage, infection, eclampsia, and obstructed labour (African Population and Health Research Center [APHRC], 2017; Odekunle, 2016; UNICEF, 2018; WHO, 2015a). There are also non-biomedical causes that limit the use of maternal health services and increase the risk of maternal mortality in developing countries, though they are often downplayed or understudied (Azuh et al., 2017; Idris, Sambo, & Ibrahim, 2013; Odekunle, 2016). Some of these non-biomedical factors include sociocultural factors, logistics, economic and political factors, and health care system infrastructural limitations and access concerns. The interrelationship between bio-medical and non-biomedical factors determines the status of women’s health or health outcomes and their risk to maternal mortality (Azuh et al., 2017; Azuh, Fayomi, & Ajayi, 2015; Chukuezi, 2010; Marchie, 2012; Okafor, 2000; Okolocha, Chiwuzie, Braimoh, Unuitbe, & Olumeko, 1998).

Despite global efforts to combat maternal mortality, 99% of the maternal mortality occurs in developing countries, with sub-Saharan African countries accounting for about 66% of the annual global burden (UNICEF, 2018; WHO, 2015a). Nigeria, one of the most populous African countries, is categorized among African nations yet to meet the expected progress on MDG #5. This is mainly because Nigeria is ranked fourth highest in the world with a maternal mortality rate of 814 for 100,000 live births in 2015 (APHRC 2017; Index Mundi, 2018; WHO, 2015a). Nigeria’s mortality rates rank second highest in West Africa after Sierra Leone with 814 and 1360 maternal deaths in 100,000 live births respectively (Index Mundi, 2018). Nigeria is primarily considered to not to have achieved MDG 5 because a less than 25% maternal mortality rate reduction was achieved by 2015 (WHO, 2015a).

According to APHRC (2017), Nigeria's maternal mortality rate in 2015 was as high as 1549 deaths in 100,000 live births in the North East Region where women experience higher risks and as low as 165 in the South West Region. The maternal mortality rate remains unacceptably high despite several interventions and safe motherhood initiatives geared towards preventing and/or reducing maternal mortality (Ariyo, Ozodiegwu, & Doctor, 2017; Odekunle, 2016; Ogu, Agholor, & Okonofua, 2016; Onah, Ikeako, & Iloabachie, 2006; WHO, 2015b). The magnitude of the maternal mortality rate in Nigeria is made increasingly apparent when compared to 7 and 14 maternal deaths in 100,000 live births in developed nations such as Canada and the United States respectively (Index Mundi, 2018; WHO, 2015a). Thus, a better understanding of the sociocultural practices (and non-biomedical causes) that impact maternal mortality is essential for informing strategies needed to reduce these unacceptably high maternal mortality levels.

Social and cultural factors influence perceptions of health and illness, health beliefs and practices, health-seeking behaviours, and decision making on where and when to seek health care (Dike, 2013; Esienumoh, Akpabio, & Etowa, 2016; Evans, 2013; Shamaki & Buang, 2015). Since cultural practices and perspectives affect different aspects of life (e.g., social relationships and community functioning) other than health (Ojua, Ishor, & Ndom, 2013), sociocultural factors/practices should not be overlooked if a reduction in maternal mortality rate is to be achieved (Ariyo et al., 2017; Lang-Balde & Amerson, 2018; Odekunle, 2016; Ogu et al., 2016). Some of the sociocultural factors that influence health-seeking behaviour and choices or lead to women's social exclusion include male dominance (Ariyo et al., 2017; Azuh et al., 2017; Azuh et al., 2015; Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Marchie, 2012; Marchie & Anyanwu, 2009; Shamaki & Buang, 2015) and gender discrimination/inequality (Azuh et al.,

2015; Chukuezi, 2010; Marchie, 2012; Ogu et al., 2016). Male dominance or gender discrimination may be displayed in the form of preference for a male child and/or large family size (Chukuezi, 2010; Lang-Balde & Amerson, 2018; Marchie & Anyanwu, 2009). The desire for a large family leads to high parity (Azuh et al., 2017; Lang-Balde & Amerson, 2018; Marchie & Anyanwu, 2009) and increased predisposition to maternal morbidity and mortality. In Nigeria, specifically, preference for a male child is a shared practice that illuminates gender inequalities across the different ethnic groups (Osezua, 2016) and women continue to bear children until a male heir is born.

Long held family traditions, traditional practices/ rituals, and cultural values/beliefs/practices for initiating girls also increase the risk of maternal mortality. Female genital mutilation (FGM) is also a common social practice that impacts maternal health outcomes for women and girls. Female circumcision (a type of FGM) is more prevalent in the Southeast (49%) and the Southwest (47.5%) regions of Nigeria compared to 2.9% and 20.7% in the Northeast and Northwest regions respectively (Mberu, 2017; 28TOOMANY, 2016). The most common type of FGM in the northern part of Nigeria are the “angurya” and “gishiri” cuts (type IV) while in southern regions Types I – III dominate (Mberu, 2017; 28TOOMANY, 2016). Therefore, a clear understanding of such foundational and intergenerational beliefs and practices is essential for safer maternal health outcomes (Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Lang-Balde & Amerson, 2018; Marchie & Anyanwu, 2009; Odekunle, 2016; Ogu et al., 2016).

Cultural practices that compromise nutritional health, such as protein and non-protein food restrictions and eating limits or food taboos in pregnancy (Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Odekunle, 2016; Ogu et al., 2016; Shamaki & Buang, 2015), are

common among diverse ethnic groups in Nigeria. Childbirth practices, such as inserting herbs into the birth canal for cleansing or use of concoctions for labour induction, also exist (Chukuezi, 2010; Marchie, 2012; Marchie & Anyanwu, 2009; Shamaki & Buang, 2015). These herbal concoctions may increase the risk of hemorrhage if used to hasten labour without full cervical dilatation.

Early child marriage is a prevalent practice across different religious and cultural groups in Nigeria (Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Marchie, 2012; Marchie & Anyanwu, 2009; Odekunle, 2016; Shamaki & Buang, 2015). A statistical report from UNICEF showed that approximately 43% of girls in Nigeria are married before age 18 (Girls Not Brides, 2018), which predisposes them to pregnancy and childbirth complications thereby increasing maternal mortality risk. Nationally, 65% of rectovaginal fistulas occur in girls under the age of 18 (Girls Not Brides, 2013). A combination of early marriage and FGM can further compromise maternal health outcomes. Some religious practices, such as child marriage, influence maternal mortality rates; hence, it is critical to include different religious leaders in discussions about practices that influence maternal mortality in order to achieve reduction and improve maternal health outcomes (Ariyo et al., 2017; Chukuezi, 2010; Odekunle, 2016; Ogu et al., 2016; Shamaki & Buang, 2015).

Levels of education or health literacy and poverty can impact maternal health-seeking behaviour including access and utilization of health care services (Ariyo et al., 2017; Azuh et al., 2015; Marchie, 2012; Marchie & Anyanwu, 2009; Odekunle, 2016; Ogu et al., 2016). According to a study conducted by the National Bureau of Statistics, the adult literacy rate in Nigeria is 56.9% with variation between states (e.g., Lagos at 92%; Borno at 14.5%), regions (e.g., South West – 69.1%; NorthWest – 31.7%), and gender (e.g., males – 65.1%; females - 48.6%) (United

Nations Educational Scientific and Cultural Organization, [UNESCO], 2012). In addition, about 86.9 million Nigerians currently live in extreme poverty (Kazeem, 2018) making Nigeria a poverty-stricken country. Poverty and illiteracy are major social factors that reinforce the impact of cultural practices on maternal mortality.

An important model that explains the influence of culture on health is the PEN-3 cultural model. This model was designed to provide a clear understanding of the promotional and non-health promotional impact of culture on health beliefs, health behaviours, and, ultimately, health outcomes (Iwelunmor, Newsome, & Airhihenbuwa, 2014). The PEN-3 model has three main domains (i.e., cultural identity, cultural relationships/expectations, and cultural empowerment), and each domain has three components that make up the acronym PEN. The cultural identity domain consists of a person, extended family, and neighbourhood (PEN); the cultural relationships and expectation domain emphasizes perceptions, enablers, and nurturers (PEN); while positive, existential, and negative (PEN) make up the cultural empowerment domain (Airhihenbuwa & Iwelunmor, 2012; Iwelunmor et al., 2014). This cultural model (i.e., cultural empowerment and relationships/expectations domains) helps to elucidate and/or facilitate an assessment of cultural practices that support or hinder maternal health outcomes. According to Etowa, MacDonald, Hannan, Phillips, and Boadu (2018), “the PEN-3 cultural model has been used to address complex health issues by identifying cultural beliefs and practices that critically influence perceptions and behaviours related to health and illness, and that should be acknowledged, encouraged, or discouraged to achieve desired health outcomes” (p. 201).

In this review, both the cultural relationship/expectations domain and the cultural empowerment domain of the PEN-3 model will be emphasized including positive, neutral, and negative impacts (vis a vis perceptions, enablers, and nurturers) of the sociocultural practices that

influence maternal mortality. To date, no known scoping review has been conducted on the impacts of sociocultural practices/factors on maternal mortality in Nigeria. The primary objective of this scoping review is to explore the impacts of select sociocultural practices reported in the literature that may influence maternal mortality in Nigeria.

Chapter 2 Literature Review

This literature review provides an overview of the extant literature related to non-biomedical aspects of the pregnancy to postpartum continuum as experienced by women in Nigeria. It will consider the foundational literature which provides the context of maternal care and beliefs in Nigeria such as cultural trends, beliefs, and realities faced by women.

2.1 Sociocultural Context of Maternal Child Health in Nigeria

Nigeria is the most populous country in Africa, with over 180 million people living across six geopolitical zones, 36 states, and a federal capital territory (Nigeria Demographic and Health Survey, [NDHS], 2013). The Northern states occupy the largest expanse of land (See Figure A-1 in Appendix A). Although Nigeria has three predominant ethnic groups (i.e., Yoruba, Igbo, Hausa), there are 374 sub-ethnic groups with different languages and innumerable cultural practices across the country (NDHS, 2013).

With nearly 7 million births annually, Nigeria's maternal mortality rate estimate in 2015 was 814 deaths per 100,000 ranking fourth highest in global maternal mortality rate (WHO, 2015a). According to APHRC (2017), the North East region experiences up to 1549 deaths per 100,000 live births annually, despite receiving a higher allocation of federal resources compared to Southern states (NDHS, 2013). This variance in maternal mortality rate is potentially attributable to differences in social factors, social practices, and cultural practices (sociocultural practices) across the different ethnic groups (Doctor, Findley, Ager, Cometto, Afenyadu, Adamu, & Green, 2012; Shamaki & Buang, 2015).

Although the biomedical causes of maternal mortality continue to receive attention through several initiatives in Nigeria, non-biomedical factors (including sociocultural factors) that influence access and utilization of health care services, health beliefs, and lifestyle decisions

do not receive the same project allocation both in terms of time and resource (Azuh et al., 2017; Odekunle, 2016; Okafor, 2000; Onah et al., 2006; Thaddeus & Maine, 1994). The factors/practices impacting maternal healthcare services are categorized as, but not limited to, social (i.e., education, poverty, gender inequality, and health systems) and cultural practices/factors. Non-biomedical factors influence people's beliefs and perceptions about health and illness, health care services, or their decisions to seek health services (Okonofua et al., 2018; Onah et al., 2006; Thaddeus & Maine, 1994). The social factors/practices are described followed by description of common cultural practices that influence health-seeking behaviour.

2.2 Social Factors/Practices

Social factors generally refer to one's roles and status in the society related to families' and community's (i.e., home, work, extended family) expectations. Social factors determine the access to and allocation of resources, such as education. Several common societal practices, such as early marriage/childbearing, high parity, and FGM increase the incidence rate or risk of maternal mortality. These social factors interface with and reinforce cultural practices and together these potentially impact maternal mortality.

2.2.1 Education

Education is a major driving force that influences other sociocultural factors or practices. Though Nigeria's *Education Act* stipulates provision of "free, compulsory and universal basic education for every child of primary and junior secondary school age" (UNESCO, 2004, p.115), over 38% of women and 21% of men aged 15-49, in Nigeria, have no formal education (NDHS, 2013). Many women from Nigeria's Northern region are uneducated, which may contribute to the increased maternal mortality rate experienced in this region (Ariyo et al., 2017; Ujah et al., 2005). In the North West and North East regions 69% and 64% of women respectively have little

or no education compared to 8% and 5% in South West and South East regions respectively. Several studies have shown that maternal mortality decreases with increasing maternal education (Azuh et al., 2017; Dimbuene et al., 2017; Ogu et al., 2016; Shamaki & Buang, 2014), which may suggest that multi-sectorial health literacy and education interventions could be beneficial. With these high levels of illiteracy, achieving a dramatic reduction in the maternal mortality rate may be unattainable if the education policies are not enforced.

Education, or lack of education, influences maternal mortality positively or negatively during the continuum from pre-natal to postnatal (Agho, Ezech, Ogbo, Enoma, & Raynes-Greenow, 2018; Somefun & Ibisomi, 2016). According to Karlson et al., (2011), there is an inverse relationship between women's education and risk of maternal mortality with those lacking full education at 2.7 times higher risk than those with 12 or more years. In addition, women's educational attainment generally increases their awareness about the health impact of certain cultural practices; facilitates access and use of health information; improves engagement in health promotion activities; influences socioeconomic status and/or affordability of health care services, social empowerment, influence, and decision-making autonomy (e.g., reproductive goals) (Agho et al., 2018; Azuh et al., 2015; Idowu, 2013; Odekunle, 2016; Ogu et al., 2016; Somefun & Ibisomi, 2016). However, contradictory findings by Udoma, Ekanem, Abasiattai, and Bassey (2008) revealed that educated women or women of high social class may also be at risk of maternal mortality due to failure to seek help from a healthcare professional due to their faith or religious beliefs. The existing literature has clearly highlighted education (lack of) as a barrier to health literacy, and creates 'overarching' impacts in economic, social status, and autonomy. The link of education to maternal health outcomes and mortality is found in this literature set; however, there is continued conflicting information which indicates the need for

further research.

2.2.2 Gender inequality

Nigeria is a patriarchal society with defined gender roles and responsibilities where gender discrimination is common (Azuh et al., 2015) resulting in inequalities for women in politics, governance, the public sector, and even in salaries and wages for comparable work, thus leading to subordination, male dominance, oppression, dependency, and marginalization (Akeju et al., 2016; Allanana, 2013; Azuh et al., 2015; Mvendaga, Ifeanyichukwu, & Apine, 2014). Nigerian society traditionally ascribes men's role to providing for the family; whereas women's roles are primarily childbearing, childrearing, and domestic chores (Odekunle & Odekunle, 2017; Ogu et al., 2016; Wall, 1998). Often the girl child's role is relegated to fulfilling men's sexual desire, bearing children, nurturing siblings, and housekeeping (Kainuwa & Yusuf, 2013; Muriuki, Maposa, Kpebo, & Blanpied, 2018; Ogu et al., 2016), while her male sibling may pursue his career and develop proficiency in leadership activities (Allanana, 2013; Odekunle & Odekunle, 2017). Additionally, simply being a girl influences her upbringing and engagement in different forms of child labour (i.e., street hawking, apprenticeship, slavery, or housemaids) and agricultural activities which can lead to early school leaving and early marriage (Allanana, 2013; Fetuga, Njokama, & Olowu, 2005; Mvendaga et al., 2014; Kainuwa & Yusuf, 2013). A study conducted by Fetuga et al. (2005) revealed a higher percentage of girls than boys are involved in child labour and about 75% of out of school children are girls (Mvendaga et al., 2014) which increases the girl child's risk of sexual exploitation, violence, and abuse (Muriuki et al., 2018; Odekunle & Odekunle, 2017).

Gender inequality and patriarchal structures within Nigeria demand women seek consent and approval from their partner before seeking help or accessing reproductive or maternal health

care services even during birth complications (Akeju et al., 2016; Ariyo et al., 2017, Doctor et al., 2012; Marchie, 2012; Okolocha et al., 1998; Okonofua et al., 2018). The literature suggests that unequal access to education, employment opportunities, finances, and other essential resources during pregnancy and birth limits women from benefitting from modern healthcare settings, while promoting use of alternative medicine (Akeju et al., 2016; Onyema, 2011). The cultural identity or social status attached to the birth of a male child and family inheritance by the nuclear/extended family credits wealth and authority essentially giving the male child control over female siblings irrespective of birth order (Nwokocha, 2007).

The inability of a family to care for their children due to financial difficulty also predisposes the female child to sexual exploitation, and violence. For example, in Nigeria, poor families with lots of children often send their female children to live with affluent family members or relatives for better future prospects or education opportunities. Often, these children are used as slaves, maids, or become victims of abuse and human trafficking (Allanana, 2013). The discussion of the extant literature explores how the topic of gender inequality features out within the family and/or community, but it also reveals that there are gaps related to the impact/effect on pregnancy/maternal health outcomes.

2.2.3 Poverty

Poverty limits women's access to resources and can "affect women's autonomy, decision making, nutrition, and social resources - knowledge, power, and prestige" (Ogu et al., 2016, p. 66), thereby impacting maternal mortality (Adeusi, Adekeye, & Ebere, 2014). The Nigerian health system does not currently provide access to free health care, so people must pay out of pocket for health services. The high cost of maternal health services (ranging from 9 to 99 USD) is unaffordable according to a study conducted in Kaduna state where 49% of participating

women reported no income (Kalu-Umeh, Sambo, Idris, & Kurfi, 2013). Therefore, women depend on financial stipends from their husbands, which may be insufficient to meet basic household needs or to pay essential health care services. Women often choose home delivery, even when it may threaten life, due to the cost barrier associated with accessing maternity services from the formal health system (Abubakar, Adamu, Hamza, & Galadima, 2017; Babalola & Fatusi, 2009; Idris et al., 2013; Ugwu & de Kok, 2015). Furthermore, a pregnant woman's inability to afford nutritious food for a healthier pregnancy can predispose her to anemia, which is a significant risk factor for hemorrhage, birth complications, or even death (Ayoya, Bendeche, Zagre, & Tchibindat, 2011).

Another factor predictive of maternal mortality is the age of marriage. With nearly 4 of 10 girls under 18 years of age entering marriage in West and Central Africa, Nigeria is home to 40% (22 million) of these child brides (UNICEF & UNFPA, 2018). Of these 80% are from the lowest economic quintile (UNICEF & UNFPA, 2018). Women's dependency and disempowerment are increased when they are forced into child marriage (Amodu, Salami, & Richter, 2017; Okonofua et al., 2018). Though the evidence spoke to the influences of poverty on food choices, social status, and, to a lesser extent, power dynamics, its impact on maternal and pregnancy outcomes needs to be established.

2.2.4 Health System

The Nigeria's National Health Insurance Scheme (NHIS), established under *Act 35 of 1999* of Nigeria's constitution, was designed to make health care accessible and affordable through a prepayment method, thereby increasing the health status of all Nigerians (NHIS, n.d.). Government employees are automatically enrolled, with about 5% of their salary deducted monthly for NHIS, while employees in private organizations arrange insurance schemes with a

health management organization ideally coordinated by NHIS. The community based social insurance scheme designed for unskilled workers (e.g., petty traders, small-scale business owners, and farmers) developed in 1999 was ratified in principle but never implemented due to resource limitations (NHIS, n.d.); hence, those who are unskilled, under-employed, or unemployed are not insured and must bear the burden out of pocket for health expenses.

The NHIS was designed to cover the enrollee, a spouse, and up to four children (NHIS, n.d.), but the insurance scheme is not effective because the government has failed to allocate sufficient revenues to health (Harrison, 2009). As a result, people continue to pay out of pocket for health care services unlike in the Canadian single-payer system where everyone has access to essential health care services through Medicare. The out of pocket payment system is one major hinderance to access and utilization of healthcare services especially among the poor (Onah & Govender, 2014). It is not surprising that Nigerian women identified financial constraint as a major reason for not seeking facility-based health care for antenatal, perinatal, and postnatal services (Agho et al., 2018; Babalola & Fatusi, 2009; Okonofua et al., 2018; Udoma et al., 2008); hence, exploring the impact of health system utilization on pregnancy outcome is essential and beyond what is currently considered within the literature reviewed herein.

2.2.5 Early Marriage or Early Childbearing

Though child marriage violates human rights, it remains a common practice in Nigeria especially in the Northern region among the Muslim communities (Amodu et al., 2017; Azuh et al., 2017). The Nigerian *Child Rights Act of 2003* forbids marriage for any child under the age of 18 (Girls, Not Brides, 2018); but the age of consent for girls in Nigeria was changed from 18 years to 11 years in 2015 due to pressures from Northern governors (Ezeamalu, 2015). Nationally, about 17% of girls marry before 15 years of age, while 44% are married by 18 (Girls,

Not Brides, 2018). The incidence of child marriage in Nigeria varies from region to region (Adebawale Fagbamigbe, Okareh, & Lawal, 2012) with an incidence of approximately 76% in the Northwestern region and 10% in the South East region (Girls, Not Brides, 2018). Adedokun, Adeyemi, and Dauda (2016) revealed the average age of marriage for girls in Kebbi state (Northern Nigeria) was a little over 11 years, with some married as early as 9 years of age.

Girls can be married off before the onset of menstruation, assuming reproductive roles for which they are neither physiological nor psychologically mature (Marchie, 2012; Shamaki & Buang, 2014). Early marriage robs the girl child of the opportunity to transition into adulthood; to build self-esteem and confidence; to achieve economic empowerment and educational opportunities; and to retain control over her own body. A woman who is not economically self-sufficient would be dependent on her partner for support, finances, and reproductive goals or health seeking decision making (Azuh et al., 2015; Chukuezi, 2010; Marchie, 2012; Odekunle, 2016; Shamaki & Buang, 2014). Though child marriage has far-reaching implications on women revealed in literature (Nour, 2006), its impact on maternal mortality will be emphasized in this scoping review.

2.2.6 High Parity

According to the NDHS (2013), the average fertility rate of a Nigerian woman is 5.5, although it is higher in the Northern region (6.7) than in the South (4.3). An analysis of NDHS (2013) report revealed high parity was common among women with little or no education, poor wealth index, early age at first marriage, remarriage, or had experienced child mortality in the past (Solanke, 2019). In Edo state (Nigeria), women were reported to give birth to many children to amass wealth (Marchie & Anyanwu, 2009), as a woman's possessions, wealth, status, or social pride depends on the number of children she bears. Lack of contraceptive use contributed

to the high parity among women, as contraceptive use is believed to cause infidelity and infertility (Okolocha et al., 1998). Consequently, anyone who openly uses or tries to control childbearing through contraceptive use may be cursed, severely punished, or ignored in some communities (Okolocha et al., 1998).

Preference for male children, access to resources, old age financial security, and social recognition are all contributing factors to high parity among Nigerian women (Dike, 2013; Evans, 2013; Marchie & Anyanwu, 2009). Nwokocha (2007) referred to the "male child syndrome" as where there is authority and certain privileges attached to having a male child. Men believe having a male child represents their identity and will ensure a designate responsibility for performing their last rights (funeral). Therefore, a woman may continue to give birth until she has at least one male child to please her partner (and/or reduce pressure from extended family), prevent divorce, and gain social relevance. Similarly, having many children is also believed to afford parents some financial and social security at old age (Dike, 2013; Marchie & Anyanwu, 2009). Several reasons for high parity have been highlighted above but there is limited information on the implications on maternal/pregnancy outcomes and the imperative is for evidence to inform future programs and campaigns which might address high parity.

2.3 Cultural Practices

Culture includes concepts of beauty, language, politics, religions, technology and material culture, values, and attitudes. Cultural practice influence beliefs, attitudes, and health behaviours which impact women's lifestyle, maternal health choices, and healthcare utilization. The main cultural practices reflected during this review were in the areas of religion, nutrition, use of traditional birth attendants (i.e., TBAs), traditional herbs and medicine, and family traditions surrounding birth. Religion, FGM, and family size are discussed as general factors,

whereas, the other aforementioned practices were discussed with reference to when they occur on the pregnancy-postpartum continuum (i.e., before, during, and after).

2.3.1 Religion

According to Solanke, Oladosu, Akinlo, and Olanisebe (2015), there is a relationship between religion/interpretation of religious teachings, and the utilization of reproductive/maternal health care services. Religious influence on maternal health depends on a woman's religious affiliation (Muslim, Christian, or Traditional). According to Al-Mutjaba et al. (2016), little evidence reporting association between maternal health and religion exists in sub-Saharan Africa. A study from Ghana found that Muslim women regardless of religious practices preferred to access skilled healthcare providers but are deterred by the attitudes of the providers from seeking such care (Ganle, 2015). Religious/faith-based practices influence health-seeking behaviours which may contribute to variability in the uptake of such services (Hussen et al., 2014).

Religion is geographically disparate in Nigeria with a Christian-dominated South, a mixed profile central area, and a Muslim-dominated North (Singh, Bloom, Haney, Olorunsaiye, & Brodish, 2012). This pattern is reflected in the disparate antenatal health care services use patterns with more women accessing in the South (76.8 - 89%) versus North (35.5 - 51.9%) (Fagbamigbe & Idemudia, 2015; Al-Mutjaba et al., 2016), and a woman in the North (77.2 - 86.5%) being more likely to have an unattended birth than their Southern counterparts (6.3 – 9.5%) (Fapohunda & Orobato, 2013).

Religious leaders also influence women's choice on utilization of maternal health services (Esienmoh et al., 2016). Some Christian religious leaders refuse christening ceremonies for children not delivered in the church/faith-based health facilities (Udoma et al., 2008), while others urge their followers to have faith in God for divine interventions to deliver

without medical interference (Chukuezi, 2010; Ugwu & de Kok, 2015) despite indications of maternal or infant risk. The religious beliefs that evil forces, spiritual attacks, and the couple's sins may complicate birthing such that some pregnant women even abscond from the hospital to deliver in churches (Fabusiwa et al., 2016; Ugwu & de Kok, 2015). Women seek help from religious leaders and traditional healers to ward off pregnancy complications caused by evil or spiritual forces (Okonofua et al., 2018; Udoma et al., 2008).

Other practices are also religiously aligned. Among Muslims, especially those in Northern Nigeria, purdah (women seclusion) is a common practice (Ariyo et al., 2017; Shamaki & Buang, 2014, 2015). Wall (1998) described purdah as "separate worlds and symbolic shelter: the rigid sexual division of labour that separates men from women, and the concomitant moral obligation this place on men to provide for their womenfolk" (p. 348). Purdah practice prevents women from relating to men in the public spaces, limiting their use of maternal health services and contributing to their decisions and/or preferences for respecting home delivery (Ariyo et al., 2017; Doctor et al., 2012). The religious practices emphasized in the existing literature focuses on the roles religious leaders have in influencing the health-seeking behaviours and control through traditional practices, but there is a lack of clarity on the actual impacts on maternal and pregnancy outcomes.

2.3.2 Female Genital Mutilation.

Female genital mutilation/cutting is "the partial or total removal of the female external genitalia or other injury to the female genital organs for cultural or other non-therapeutic reasons" (NDHS, 2013, p. 345). Female genital mutilation (FGM) is a socially recognized and acceptable practice among the different ethnic groups in Nigeria (Mberu, 2017; 28 TOO MANY, 2016). The commonly practised forms of FGM in Nigeria are female circumcision,

hymenectomy (*angurya*), and gishiri cuts (NDHS, 2013). Female circumcision is more prevalent in the Southern region (55% among the Yorubas and 45% among the Igbos), while *angurya* and gishiri cuts are predominant in the Northern region and among Muslims (54%) (Mberu, 2017; NDHS, 2013; 28 TOOMANY, 2016). Please see Appendix B for a description of types of FGM. The rationales for FGM in Nigeria, especially among Igbo and Yoruba tribes and the traditional followers, include purification, family honour, hygiene, prevention of promiscuity, initiation into womanhood, women's socialization, and protection of virginity (Chukuezi, 2010; Mberu, 2017; NDHS, 2013; 28 TOOMANY, 2016).

Female genital mutilation, which violates women's reproductive rights (NDHS, 2013), predisposes women to both short-term and long-term complications (e.g., obstetric fistulas) during delivery or even death (Amodu et al., 2017; Doctor et al., 2012; Odekunle, 2016; Shamaki & Buang 2015). Women's exposure to infection due to repetitive use of the same instruments or unsterilized equipment for several women during birth, increases the risk of maternal mortality (Odukogbe, Afolabi, Bello, & Adeyanju, 2017). This practice remains prevalent in Nigeria, so it is essential to understand its implication on maternal mortality and as well, work with women and cultural gatekeepers to better understand the cultural values attached to this potentially unsafe rite of passage. This particular topic has received recent attention globally, in terms of the strategies to stop the practice, as well as avert the negative outcomes.

2.3.3 Preference for Large Family

The preference for a large family is deeply rooted in cultural/ethnic orientation and practices, despite evidence of high parity and compressed birth intervals/spacing being linked to increased maternal mortality (Sonneveldt, DeCormier-Plosky, & Stover, 2013). Giving birth is considered a blessing from God, which should not be denied irrespective of an individual's

economic status (Ajiboye & Adebayo, 2012; Asowa-Omorodion, 1997). Women reportedly gave birth to many children due to the inherent cultural value placed on children or to earn honour, respect, and social recognition, (Dike, 2013; Thaddeus & Maine, 1994).

In the Eastern part of Nigeria, the celebration of women with ten successful pregnancies (e.g., *igwu ewu ukwu or Ibo ezi*) is a common practice that prevails, despite evidence that such practice predisposes women to hemorrhage, uterine rupture, and even death (Odekunle, 2016; Ogu et al., 2016;). This practice celebrates high parity as a reproductive achievement and incites other women and girls to do the same. Some women give birth to many children in order to provide the labour force for their family's agricultural or industrial businesses so as to increase family income or social standing (Dike, 2013; Fetuga et al., 2005). Though this practice is highly celebrated, its implication on maternal/pregnancy outcome is not sufficiently explored in the literature reviewed with the emphasis resting with the socioeconomic rationales for this practice.

2.3.4 Cultural Practices before Pregnancy

Select common practices were described within the extant literature that occur within the pre-pregnancy timeframe which increase women's risk of maternal mortality. The use of traditional birth attendants (TBAs) and their impact on maternal mortality will be discussed in this section, although they remain present through all four stages.

2.3.5 Use of Traditional Birth Attendants

Women's choices of where, when, and from whom to seek help for childbirth are deeply rooted in cultural beliefs. These beliefs support or value the role of TBAs who are often of the same ethnicity and/or originate from the same community. A TBA is a person who assists women during childbirth and who acquired the skills either by giving birth herself or through apprenticeship to other TBAs (Ohaja & Murphy-Lawless, 2017). TBAs are believed to provide

culturally competent, consistent, compassionate, and comprehensive care to women during pregnancy, delivery, and in the postpartum period (Amutah-Onukagha et al., 2017)

The rationales for the utilization of TBA services include accessibility, availability, and affordability of services, faith-based practices, strong interpersonal relationships, communication, trust and respect, shared maternal-health beliefs, cultural knowledge and sensitivity, and alternative payments (Akeju et al., 2016; Akpabio, Edet, Etifit, & Robinson-Bassey, 2014; Ohaja & Murphy-Lawless, 2017). Apart from the aforementioned, women without formal education and rural dwellers also believe TBAs are experts when it comes to pregnancy, childbirth, family planning choices and counselling, and/or natural management of complications (Ofili & Okojie, 2005). Variability according to region and ethnicity is shown in studies, such as, in the Niger Delta, where TBAs are perceived to be better in managing complications (Igberase, Isah, & Ighekoyi, 2009); in Lagos, both orthodox and unorthodox services were utilized for various reasons (Okafor, Sekoni, Ezeiru, Ugboaja, & Inem, 2014); whereas, in Cross River state preference was for modern healthcare practitioners (Akpabio et al., 2014).

The TBAs hold cultural beliefs that influence their practices which may be harmful and detrimental to maternal health or impact pregnancy outcomes (Ofili & Okojie, 2005). It is important to culturally situate TBAs' roles because of their strong cultural influence on pregnant women, especially in remote areas where there is poor distribution of health care facilities

2.3.6 Cultural Practices during Pregnancy

Within the literature, a number of beliefs, taboos, and practices were identified as occurring during the period of pregnancy until childbirth, ranging from practices that support pregnancy diagnosis to the practices implemented at the onset of delivery or birth. These cultural practices have been broadly described in the literature but their impact on maternal/pregnancy

outcomes needs to be established.

2.3.6.1 Food Restrictions. In many contexts, women were prohibited or encouraged in eating certain foods during pregnancy (Ankita, Hardika, & Girija, 2013; Meyer-Rochow, 2009). Foods commonly avoided by Nigerian pregnant women include meat, eggs, corn porridge, snails, and certain beverages (e.g., milk) (Esienumoh et al., 2016; Ezeama & Ezeamah, 2014). Most foods avoided are rich sources of protein and iron, but are believed to either to cause excessive salivation in the newborn, bad behaviour (such as stealing in children), increased susceptibility to epilepsy, or macrosomic fetus leading to difficult delivery (Lang-Balde & Amerson, 2018; Odekunle, 2016). Pregnant women in Oyo State avoided vegetables because it was believed to cause stomach pain, gas, and bloating for the pregnant woman or hiccoughs and gasping for infants. Similarly, plantain consumption, which is believed to cause a delay in the closure of fontanelles (Ezeama & Ezeamah, 2014), was also prohibited. Again, this variability in ‘restrictions’ are often related to regionality and/or ethnicity.

2.3.6.2 Alcohol Consumption. Consumption of alcohol during pregnancy is common among women in a particular cultural group. For example, consumption of locally made gin/alcohol which could cause hepatitis, a significant risk factor for maternal mortality (Ajiboye & Adebayo, 2012; Okolocha et al., 1998), has been reported among the Ogu women living in South West Nigeria (Lagos state). In some Eastern states, consumption of palm-wine, alcohol, and caffeine stimulants (e.g., kola nuts) are common practices among pregnant women which could increase their susceptibility to infectious diseases that significantly increase the risk of maternal mortality (Okafor & Rizzuto, 1994). Ordinioha and Brisibe (2015) revealed in their study that the high consumption of alcohol among pregnant women in the South South area was due to their lack of understanding of its implication on their health and that of the baby.

2.3.6.3 Pregnancy Massage. Pregnancy massages (often referred to as abdominal massage) is a common practice in South South Nigeria performed by non-professionals or people with limited knowledge of pregnancy anatomy, which brings potential complications (Adokiye, Isioma, & Levi, 2016). In a case report by Igberase (2012), splenic rupture and maternal/perinatal mortality were the outcome of an abdominal massage in Niger Delta. This study was further explored by Ekinne 2016, (as cited by Adokiye et al., 2016) who found that the majority of the women appearing at the hospital with uterine rupture had abdominal massage on a previously scarred uterus.

2.3.6.4 Other Behavioural Taboos. Behavioural taboos, such as pregnant women avoiding late night walks, could prevent injuries like falls among pregnant women (Lange-Balde & Amerson, 2018), and avoiding walking on a sunny afternoon could prevent fatigue or manipulation of the fetus by evil spirits (Adetunji, 1996). Pregnant women sleeping on their sides and not on their stomach reduces discomfort, backache, or distress to the baby (Adetunji, 1996).

2.3.6.5 Other Beliefs in Pregnancy. There are various traditional beliefs linked to events that occur at diagnosis of pregnancy or during pregnancy. According to Okafor and Rizzuto (1994), a woman is said to be pregnant if she has one or more of the following symptoms - vomiting, cessation of menstruation, changes in skin complexion, visions, or dreams of holding a baby, and appearance of the new moon. In most rural communities the new moon appearance is used as an important calendar to confirm events, and also used as a reference for pregnancies and death. It is also believed that pregnancy should be kept a secret and must not be revealed to the public to protect the woman from evil spirits or diabolical people that can cause miscarriage or fetal malformations (Adetunji, 1996; Lange-Balde & Amerson, 2018). This long-held belief

about secrecy prevents women's utilization of antenatal services until late into the second or third trimesters (Ezeama & Ezeamah, 2014).

Misconception about and/or misinterpretation of common symptoms may be due to underlying traditional beliefs and resultant alternatives to accessing health care services. For instance, treatment of leg edema may be ignored because it is culturally perceived to be related to bad maternal blood, bad water, or having a male child (Okafor & Rizzuto, 1994). Similarly, convulsion in pregnancy is believed to be caused by witchcraft or infidelity and is treated by ingestion of local herbs, topical application herbal extracts, or performing sacrifices, instead of seeking help from a modern healthcare facility (Okafor & Rizzuto, 1994).

The tying of knots at the edge of a wrapper and safety pins to clothes are believed to shield the pregnant woman and her baby from evil spirit or recurrent fetal death ("*abiku*"). People with disabilities are not allowed to cross pregnant women's outstretched legs to prevent birthing a disabled infant (Adetunji, 1996).

2.3.7 Cultural Practices during Childbirth

A number of common cultural beliefs and practices (herbal or non-herbal) employed during childbirth that potentially influence maternal health outcomes are described in the literature.

There are various cultural beliefs and perceptions surrounding the childbirth process in Nigeria. These beliefs vary from the progress of labour, acceptable behaviour during labour, where birth should take place, and the best healthcare personnel to handle complications. In the northern parts of Nigeria, hospital birth is not customary (Doctor et al., 2012) and medicated birth is perceived to be shameful (*kunya*) and alien (Babalola & Fatusi, 2009; Doctor et al., 2012). Women are believed to have an honourable childbirth if no assistance is sought resulting

in them gaining respect (Lange-Balde & Amerson, 2018; Thaddeus & Maine, 1994). Fulani women (in Northern Nigeria) have cultural obligations to be modest during labour and are expected not to express pain (Babalola & Fatusi, 2009; Shamaki & Buang, 2014; Wall, 1998); hence, they labour in silence and fail to call for help when necessary.

2.3.7.1 Traditional Medicine and Herbs. Utilization of herbal medicine among pregnant women varies between developed and developing contexts from 7% to 96% (Hall, McKenna, & Griffiths, 2012; Holst, Wright, Haavik, & Nordeng, 2009). According to Fakeye, Adisa and Musa (2009), pregnant women's usage of herbal medicines in low and middle-income countries is often related to cultural beliefs and have a significant presence in Nigeria (31%), in Tanzania (42%), and in South Africa (33%).

The use of herbs during the birthing process is a common practice, often seen as aiding in a safe passage (Ajiboye & Adebayo, 2012). Traditions, such as insertion of jute leaves (a plant used to make cloth), to induce labour, inducing emesis to expel the placenta, and application of fundal pressure to enhance labour progress are common practices (Bucher et al., 2016; Byrne et al., 2016; Evans, 2013) found within the cultural intra-partal intervention literature.

In some cases, the use of herbal enema to prevent postpartum hemorrhage and ward off evil spirits (Dorwie & Paquiao, 2014; Esienumoh et al., 2016) exposes women to risk of maternal morbidity and even mortality. The routine use of herbal Pitocin to expedite labour, without any means of monitoring labour progress and fetal status may increase the risk of uterine rupture and bring about grave consequences (Okafor 2000).

2.3.7.2 Beliefs about Childbirth Interventions. Individuals are also perceived to be responsible for untoward outcomes or complications during pregnancy. Prolonged labour is attributed to misdeeds (Odekunle, 2016), infringement of taboos (i.e., prohibited foods eaten

during pregnancy) (Doctor et al., 2012), or a husband's failure to perform a customary ritual (Evans, 2013). Other beliefs include that obstructed labour is due to infidelity, disobedience, or disregard for traditional beliefs (Odekunle, 2016).

Other interventions related to obstruction during delivery are also often informed by cultural practices, such as the gishiri cuts among Hausa women in Northern Nigeria (Wall, 1998). Others, such as the Ogu speakers of Lagos state, believe birth by caesarean section is caused by failure to perform traditional rituals during pregnancy (Ajiboye & Adebayo, 2012). All these beliefs influence women's decisions about institutional deliveries resulting in only 36% of births in Nigeria being facility-based, with the proportion of facility-based delivery decreasing with increasing parity (NDHS, 2013).

2.3.7.3 Cultural Practices During Postpartum. Posmontier and Horowitz (2004) speak of ethnokinship cultures as those which have significant postpartum socio-culturally framed practices, such as mandated periods of reduced activity, social supports, nutrition, hygiene, and balance. The implication of these practices on maternal and pregnancy outcomes are not sufficiently established in the literature.

2.3.7.4 Mandatory Periods of Reduced Activity. In some countries, the post-partum women are moved to their parental homes for a set period (Jambunatha, 1995; Tien, 2004) or receive assistance in their homes (Davis, 2001). In Nigeria, confinement and seclusion are more prevalent in the Northern region compared to the Southern region (Iliyasu et al., 2006). Women are confined for at least 40 days following birth in order to regain stamina and hasten recovery to the pre-pregnant state, while receiving help from friends and relatives (Dike, 2013; Iliyasu et al., 2006).

2.3.7.5 Support. According to the evidence, many cultures have a support process for the

early postpartum period often involving immediate female family members and, in some instances, elderly community women (Leung, Arthur, & Marinson, 2005; Niska, Snyder & Lia-Hoagberg, 1998; Small, Rice, Yelland, & Lumley, 1999).

The parturient woman receives support (especially with domestic chores) from friends and family during the postpartum period. The woman receives physical and emotional support, and some nurturing advice from older adults (especially first-time mothers). For example, in the Eastern part of Nigeria, '*Omugwo*' practice is common. During *Omugwo*, the parturient woman's mother takes over her care to facilitate the healing process towards the pre-pregnant state (Ekanem, John, Ekott, & Udoma, 2004; Okafor, 2000). In the Southern part of Nigeria, either the parturient woman's mother or mother in-law takes up the care responsibility.

2.3.7.6 Nutrition. Food is variably seen as healing or illness-causing across cultures. According to Dennis, Fung, Grigoriadis, Robinson, Romans, and Ross (2007), there are extensive lists of allowed and disallowed foods for the post-partial women across countries and cultures. Many of these foods are purported to impact lactation, pain relief, and expulsion of childbirth blood (Dennis et al., 2007).

In the Nigerian context, during the postpartum period, women are allowed to eat different nourishing and spicy foods (e.g., pepper soup) in order to stimulate lactation and recover from pregnancy anaemia (Ekanem et al., 2004; Iliyasu et al., 2006). It is noted that women have access to the best foods without restrictions and rest is encouraged for at least 30 to 40 days before resumption of regular activity (Ekanem et al., 2004; Okafor, 2000). The Hausa puerperal woman enjoy *kangwa* (gruel). which is sodium carbonate-laden salt, believed to have medicinal purposes including increasing lactation productivity (Wall, 1998). In the Eastern and South Eastern parts of Nigeria, alcohol consumption is also encouraged with post-partial women to

increase lactation (Ekanem et al., 2004)

2.3.7.7 Hygiene. For many societies, the postpartum woman is considered unclean, which yields special washes/baths (Nahas & Amasheh, 1999) which are often time constrained (i.e., a number of days post partal, or post-prescribed rest periods). Many cultures place restrictions on resumption of sexual intercourse (Chien et al., 2006). For example, Fikree, Ali, Durocher, and Rahbar (2004) found that in Pakistan heavy post-partal bleeding is considered necessary to flush out the accumulated blood from the pregnancy.

In the Nigerian context, after childbirth, it is essential for the woman to allow the perineal area to heal before the resumption of coitus; hence, sexual intercourse is discouraged within the first six weeks following birth in order to prevent vaginal lacerations, hemorrhage, and vaginitis (Okeke, Ugwu, Ezenyeaku, Ikeako, & Okezie, 2013). However, in two different studies conducted in the Eastern part of Nigeria, women claimed to resume coitus within six weeks of delivery without the use of contraceptives (Ekanem et al., 2004; Okeke et al., 2013). Another study conducted in Kano state (Northern region) revealed women practised abstinence until after 6 weeks (Iliyasu et al., 2006).

2.3.7.8 Balance. Many cultures, especially Asian, speak of the imperative to balance hot/cold in terms of foods, and pregnancy state (i.e., pregnant being hot/post-natal being cold) (Dennis, et al., 2007). In Nigeria, this operationalizes as subjecting puerperal women to a cultural warming over a bed of hot coals to generate internal heat and having hot baths for at least 40 days postpartum (Iliyasu et al., 2006; Shamaki & Buang, 2015) or laying on heated mud beds are predominant among the puerperal Hausa women (Iliyasu et al., 2006; Shamaki & Buang, 2015).

Another common practice that cuts across the different ethnic groups is the abdominal hot compress, done to aid involution of the uterus and lochia drainage (Ekanem et al., 2004;

Okeke et al., 2013). Similar to the abdominal compress is the sitz bath, which is commonly done to facilitate healing of the perineal area, aid in lochia drainage, and improve vaginal tone (Ekanem et al., 2004; Iliyasu et al., 2006). Finally, some authors speak to breastfeeding occurring in heated rooms during the first few days after childbirth to prevent cold, vulnerability to illnesses, and improve flow of breast milk (Ekanem et al., 2004; Iliyasu et al., 2006).

2.4 Summary of the Literature

This review of the literature has provided insights into non-biomedical issues in maternal mortality. The review highlighted the complexities and range of social and cultural practices that vary both across and within countries. Within this literature set, it was apparent that many studies were highly descriptive of beliefs or practices, but often did not relate it to their impacts or implications on maternal mortality specifically. Thus, an opportunity exists to extend the knowledge on social and cultural practices in the Nigerian context as these impact on maternal health and pregnancy outcomes.

Chapter 3 Methodology

3.1 Overview

A scoping review is the methodology of choice for this study. Though other forms of review can be used for research related to women's health, a scoping review can broadly accommodate literature from different sources enabling synthesis of the evidence (Peters et al., 2017). The broad scope and advantage of this methodology is that it has “a form of knowledge which incorporates a range of study designs to comprehensively summarize and synthesize evidence with the aim of informing practice, programs, and policy and providing direction to future research priorities” (Colquhoun et al., 2014, p. 1291).

Though there are several definitions of scoping reviews in the literature, the Canadian Institutes of Health Research (CIHR) provides a comprehensive definition as follows:

exploratory projects that systematically map the literature available on a topic, identifying key concepts, theories, sources of evidence, and gaps in the research and notes often preliminary to full syntheses, undertaken when feasibility is a concern – either because the potentially relevant literature is thought to be especially vast and diverse (varying by method, theoretical orientation or discipline) or there is a suspicion that not enough literature exists (Grimshaw, 2010, p. 34).

The CIHR definition provides a good background for a scoping review but Colquhoun et al. (2014) offers a better definition of the scoping review. Colquhoun et al. (2014) defined the scoping review as a “form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge” (p. 1292 - 1294).

A scoping review is different from a systematic review in that broader topics with different study designs can be addressed unlike systematic reviews that focus on specific questions with predetermined study designs (Arksey & O'Malley, 2005). Also, a scoping review provides an overview of existing evidence irrespective of the quality of the articles, maps evidence from studies which are complex and heterogenous in nature (Peters et al., 2015; 2017; Tricco et al., 2016), and provides answers to all forms of research questions (Arksey & O'Malley, 2005) unlike the systematic review. Systematic reviews involve quality appraisal of studies and use of best available evidence to answer a research question (Peters et al., 2015), whereas scoping reviews do not involve quality appraisal/assessment of studies, but rather all forms of evidence are considered (Arksey & O'Malley, 2005; Peters et al., 2015). Systematic reviews can also be used to test hypotheses while the scoping reviews are used to generate hypotheses (Tricco et al., 2016), and provide insight on a topic from diverse sources of evidence.

The lack of quality assessment under the scoping review framework has been critiqued and some researchers have recommended that scoping reviews include quality assessment of studies in order to enhance easy interpretation of findings and provide insights for policy recommendations and practice guidelines (Daudt, van Mossel, & Scott, 2013; Levac, Colquhoun, & O'Brien 2010). The inclusion of literature appraisal in the scoping review is still being debated, though it is not supported by the Joanna Briggs Institute (JBI) framework for scoping reviews (Peters et al., 2017). This study adheres to the JBI guidelines for conducting scoping reviews; hence, no quality appraisal of literature was conducted.

The scoping review is suitable for this research study on the impacts of select sociocultural practices on maternal mortality in Nigeria for the following reasons.

First, it has a broad scope with a focus beyond effectiveness of interventional studies

(Peters et al., 2015). For instance, with a scoping review, different aspects of sociocultural practices influencing maternal mortality can be explored to illuminate the status of the evidence in Nigeria - which was important in this work as it has not been previously reported.

Second, areas or subjects with emerging evidence can be explored especially when it is not clear how to specifically frame, address, or refine the research question (Peters et al., n.d.). As in this research, sociocultural practices and maternal mortality were uniquely considered.

Third, evidence can be drawn from various sources regardless of their credibility or level of evidence (Peters et al., 2015, 2017). For example, some of the articles included in this scoping review might be exempted if the credibility of sources was considered. However, by using the information from the selected literature included in this scoping review, unique relationships which might otherwise be excluded were revealed.

Fourth, it involves an iterative process and less restrictive inclusion and exclusion criteria which allows the researcher to make necessary adjustments during the research process. The circularity and the flexibility of the scoping review process in the current study allowed for a unique consideration and addition of the PEN-3 (Iwelunmor et al., 2014) model to organize and report findings. In this study, this theoretical lens (PEN-3) facilitated the exploration of how the role of cultural relationships/expectations and empowerment impact maternal mortality and/or maternal health outcomes.

Finally, it provides insight into available literature (how much or less) and informs the researcher about existing evidence on a subject area (Arksey & O' Malley, 2005; Peters et al., 2015). In this study, the existing evidence guided the researcher to explore the impact sociocultural practices/factors on maternal mortality from a broader perspective with the use of the PEN-3 cultural model as a conceptual framework.

3.2 Conceptual Framework

The PEN-3 model as aforementioned has 3 domains which are cultural identity, cultural relationship/expectation, and cultural empowerment. The PEN-3 cultural model is believed to have two phases – the assessment phase and the implementation/evaluation phase (Iwelunmor et al., 2014; Olufowote & Aranda, 2018). The cultural empowerment and expectation/relationship domains are categorized under the assessment phase while the cultural identity domain can be categorized under the implementation phase (the focus of intervention) (Iwelunmor et al., 2014; Olufowote & Aranda, 2018). Since this study is a review of studies, results/findings from this assessment phase need to be gathered before suggesting any interventions that can address/mitigate maternal mortality. The findings from the assessment phase will also determine the subjects or targets (individual or community) of the intervention. The cultural identity domain focuses on the intervention entry points (Airhihenbuwa & Webster, 2004; Olufowote & Aranda, 2018), and is thus, not applicable as it is beyond the scope of this study.

The cultural empowerment domain reinforces three significant impacts of culture on health: positive (valuable), existential (neutral), and negative (or harmful) practices and provides a comprehensive way to critique sociocultural factors (Iwelunmor et al., 2014). As opposed to the popular misconception that culture primarily impacts health negatively, Iwelunmor et al. (2014) explained that the positive influences can be strengthened, and the neutral controls acknowledged as they may have symbolic nuances while the negative influences can be modified to improve health outcomes (i.e., reduce maternal mortality). The relationships/expectations domain explains “knowledge, beliefs and attitude about health problems (perceptions), available social, structural resources, or institutional support that impact health (enablers), and family influences in decisions about health management (nurturers)” (Airhihenbuwa & Webster, 2004;

Iwelunmor et al., 2014). According to Olufowote and Aranda (2018), perceptions (P) are concerned with culturally-indigenous attitudes, beliefs, and values surrounding a health problem (e.g., maternal mortality caused by witchcraft or infidelity). “Such perceptions are widely shared yet unobservable aspects of the socio-cultural landscape” (Olufowote & Aranda, 2018, p. 179). Enablers (E) focus on or are concerned with resources that communities and societies provide for health (e.g. healthcare infrastructure, systems, and workers) that support better access to care for maternal and child health. Lastly, nurturers (N) focus on sociocultural traditions that inform maternal, interpersonal, and family health practices (e.g., Omugwo practice) (Olufowote & Aranda, 2018).

Additionally, a three by three cross tabulation table can be generated between the cultural relationships/expectation and the empowerment domains to state and/or illuminate how their interactions (Airhihenbuwa & Webster, 2004; Iwelunmor et al., 2014) broadly explain social and cultural factors impact maternal health outcomes/mortality independently and/or combined. Because this scoping review is not an interventional study, the assessment phase of the PEN-3 model will be used to explore sociocultural impacts on maternal mortality in Nigeria.

3.3 Methodological Approach

According to Peters et al. (2015, 2017), a scoping review should start with development of an apriori protocol. The JBI Reviewer Manual for scoping review guideline stipulates that the researcher should identify the population, concept, and context which guide the development of the research question and objectives, then, develop an apriori protocol (Peters et al., 2017). The apriori protocol is a proposed plan of action that guides the review and documentation process to ensure transparency and rigour while limiting bias (Peters et al., 2017). Due to the iterative nature of the scoping review, the apriori protocol can be reviewed and revised with justifiable

reasons (Peters et al., 2015). The apriori protocol for this study was drafted and the researcher was able to identify existing literature available on the subject. The apriori protocol (refer to Appendix C) was reviewed and adjusted to accommodate changes in the topic and inclusion and exclusion criteria.

The JBI manual for conducting scoping reviews was drafted using the Arksey and O'Malley (2005) framework in conjunction with enhancements made by Levac, Colquhoun, and O'Brien (Peters et al., 2017). The five-step process for conducting scoping review includes: (i) identifying the research question; (ii) identifying relevant literature; (iii) selecting the study; (iv) charting the data; (v) collating, summarizing, and reporting the data; and (vi) consultation which is optional (Arksey & O'Malley, 2005; Levac et al., 2010).

3.3.1 Research Question Identification

The decision to undertake this research study was influenced by the researcher's passion for maternal health, prior experience as a nurse midwife in Nigeria, and the death of a few friends during childbirth. In the past five years, the graduate student has had a few friends who died during the childbirth process either due to complications or refusal of caesarean section due to long held beliefs. This was sad because, irrespective of the level of education or exposure to healthcare or clinical understanding, some decisions about maternal health care are still influenced and, ultimately, determined by cultural beliefs. Likewise, one of the major emotional experiences as a nurse was that of a pregnant woman that had laboured for days before being brought into the hospital. The woman registered for antenatal care but absconded after her second antenatal visit because she was told the fetus was in a transverse position and the implications for a caesarean section if the fetus remained in that position. When she was in labour, she went to the TBA's house, where she was given several concoctions and different

manoeuvres were attempted. She laboured for three days and was sent to the hospital when she began to bleed. The woman was rushed into the labour unit where she delivered the almost lifeless baby. Although the woman lived, the infant did not survive due to lack of hospital resources (e.g., oxygen). That particular woman is one of several similar cases with untoward maternal outcomes the primary researcher observed. Most of the time, women with similar complications ended up with uterine rupture, hemorrhage, or even death.

These experiences inspired the direction of this graduate work on improving understanding of sociocultural factors/practices impacting maternal mortality. The researcher did a preliminary literature search and realized most studies focused on the biomedical causes of maternal mortality, and seemingly had little impact on the maternal mortality rate. After careful observation, the researcher made a decision to look into the social determinants of health (SDH) that impact maternal mortality. After several meetings with research supervisors, we agreed that the initial research focus (SDH) was too broad; hence, the decision to explore the sociocultural aspects of maternal mortality. With the understanding gained from the background literature search, a recognition that sociocultural practices that impact maternal mortality needs to be explored to gain a deeper understanding, better inform policy makers, and guide programs or interventions aimed at reducing mortality rate such as improved access to maternal health care and timely referral (Ugwu & de Kok, 2015). According to Levac et al. (2010), the rationale for carrying out a study can inform how the research question is formulated; hence, the research question evolved from researcher's prior work experiences and the literature. In this case, the research question was refined with the help of my graduate advisory committee (GAC).

The research question in a scoping review is expected to be comprehensive, broad, and clearly stated to incorporate relevant information like population, concept, and context (Arksey

& O'Malley, 2005; Colquhoun et al., 2014; Daudt, van Mossel, & Scott, 2013; Levac et al., 2010; Peters et al., 2017). A clearly stated question communicates the purpose of the study and guides the literature search strategy (Levac et al., 2010). In some cases, sub-questions may be needed to explain how evidence will be reported or how to explore particular issues in relation to the context of the study (Armstrong, Hall, Doyle, & Waters, 2011; Peters et al., 2015).

Research question. What sociocultural practices are reported in the literature as impacting maternal mortality in Nigeria between 1990 and 2018?

Sub-questions. What are the positive impacts of sociocultural practices on maternal mortality in Nigeria? What are the existential/neutral impacts of sociocultural practices on maternal mortality in Nigeria? What are the negative impacts of sociocultural practices on maternal mortality in Nigeria?

3.3.2 Identification of Relevant Literature

Arksey and O'Malley (2005) recommended an extensive literature search from both primary and secondary sources whether published or unpublished. In this review, different electronic databases (CINAHL, Medline, PubMed, Scopus, Embase, Web of Science, PsycINFO, and Google Scholar) were used during the preliminary search to draft the apriori protocol. The preliminary search was done with the help of the nursing librarian at the University of Saskatchewan and the findings from the search were presented to the graduate advisory committee in order to adjust the inclusion and exclusion criteria. After careful review of the apriori protocol, bibliography, and the abstract describing the scope of the study, the supervisory advisory committee agreed on the inclusion and exclusion criteria and gave the researcher approval to continue the study. With help from the librarian, an initial search strategy was developed, and the same electronic databases used for the apriori protocol were searched to

identify articles that focused on sociocultural factors or practices that increase the risk of maternal mortality. The papers retrieved from the first search were reviewed to select keywords, definitions, and terms that can be used interchangeably with “sociocultural” and “maternal mortality”, and also set a time frame for the articles. The new keywords and subject terms were included, and a final search strategy was developed (see Table 3-1).

Armstrong et al. (2011) suggested the databases searched should be limited (e.g., maximum of 3 databases). However, for this study eight databases were systematically searched to ensure all articles that focused on sociocultural practices or factors influencing maternal mortality in the Nigerian context were retrieved and examined in recognition of the unacceptably high maternal mortality rate of 814 per 100,000 live births (APHRC, 2017; Index Mundi, 2018; WHO, 2015a). The search was updated from time to time between April 2017 and March 2019 to identify new articles related to the research study and reproducibility of the results.

Qualitative studies, quantitative studies, mixed method studies, theses, and grey literature were included in the scoping review, while government reports (e.g., WHO, Ministry of Health, United Nations Children’s Fund, United Nations Population Fund, Public Health Agency, Nigerian Demographic and Health Survey) were used as supporting evidence when referencing statistical values, demographics, and government strategies, policies or reports on maternal mortality.

Also, the reference lists of selected published articles and grey literature were searched, screened, and the relevant studies included in this review. The graduate student also hand searched some articles on Google to identify unpublished studies related to sociocultural practices and maternal mortality. The total number of articles retrieved from the databases and the ones included in the study are presented using the PRISMA diagram represented in Figure

3.1. The subject terms, key words, and Mesh headings used for the search strategy are listed as seen in Table 3.1 below.

Table 3-1. Keywords /subject terms used for literature search

#1	Sociocultural: Sociocultural* OR social norm OR social value OR social behaviour OR culture OR cultural practices OR cultural norm OR cultural value OR family tradition OR traditional belief OR traditional practices OR non-clinical practices
#2	Maternal health OR maternal survival
#3	Pregnancy OR pregnancy outcome OR antenatal OR prenatal OR labour OR delivery OR obstetric birth OR postpartum OR postnatal
#4	Maternal mortality OR maternal death
#5	Nigeria
#6	#1 AND #2 AND #3 AND #5
#7	#1 AND #3 AND #4 AND #5

3.3.2.1 Inclusion Criteria. Articles included were focused on adolescents and women of childbearing age (13- 49 years); published in English; addressed sociocultural practices and maternal mortality; included peer-reviewed articles, reports, and theses conducted in Nigeria or Africa (with the inclusion of studies from Nigeria); and published between 1990 and 2018.

3.3.3 Study Selection

Though it is essential to conduct an extensive literature search, it is also necessary to define the terms to avoid gathering a large number of articles/reports not relevant to the research study (Arksey & O'Malley, 2005). The sociocultural practices impacting maternal mortality in Nigeria were operationalized using the WHO (2018) definition. The study selection involved an iterative literature search and ongoing refining of the search strategy. The inclusion and

exclusion criteria for the study were clearly defined and stated, which helped eliminate irrelevant studies, maintain transparency, and enhance the ability to reproduce the search.

The study selection phase was time consuming and as Colquhoun et al. (2014) suggested, the research team met frequently to discuss the inclusion and exclusion criteria, review the search strategy, and provide feedback. For this study, several meetings with project supervisors and advisory committee were held to discuss the inclusion and exclusion criteria, the search strategy, and refine the focus of the research. The quality and extensive feedback provided helped refine the search strategy and inclusion/exclusion criteria at different stages. Every member of the committee agreed on the inclusion and exclusion criteria. Clearly defined inclusion/exclusion criteria hastened the development of good search strategy and minimized accumulation of irrelevant studies not pertinent to this review (Grimshaw, 2010). A total number of 882 articles were retrieved and after applying the inclusion and exclusion criteria, 35 articles were included in the final scoping review. These articles were reviewed by two members of the supervisory committee and external reviewers to ensure accuracy and comprehensiveness.

3.3.3.1 Exclusion Criteria. Articles excluded were focused on males or male involvement/participation; published in languages other than English; related to other African countries or regions of the world; published before 1990; and discussed issues other than sociocultural practices.

A total of 844 articles were identified from the data base searches. This number was minimal because some of the exclusion criteria were applied to refine the search. For instances, studies that were conducted before 1990 and in languages other than English were excluded during the initial search. Thirty-eight additional studies were retrieved from searching the reference list of articles previously retrieved. All retrieved articles were saved into two different

reference management programs (Zotero & Mendeley) for comparison. Of all the 882 articles retrieved, a total of 436 duplicates were removed and excluded from the review process. The primary researcher compared the two reference management programs for discrepancies and went through the results manually to ensure all the duplicates were removed.

As suggested by scholars of scoping review that at least two reviewers must be involved in each level of screening to ensure rigour and transparency (Colquhoun et al. 2014; Levac et al., 2010; Peters et al., 2015), the primary researcher discussed with two graduate students (referred to as research assistants [RAs]) about the possibility of reviewing the studies and they consented. The RAs were each given a copy of the apriori protocol and a brief about the research study. The RAs independently reviewed the articles and confirmed the removal of all duplicates. Each of the 882 articles retrieved from the different databases was screened for title and abstract by the primary researcher and RAs using the inclusion and exclusion criteria. Titles and abstracts that did not meet the inclusion criteria were removed. Reconciliation of included articles by the trio was done through discussion and a consensus reached before proceeding to the next stage of screening. A total of 172 articles were excluded at the titles and abstracts screening level due to lack of relatedness to the research study. Inclusion and exclusion criteria were applied to the remaining 274 articles and studies that focused on male involvement/participation, infant mortality or breastfeeding practices, and other common epidemics in Nigeria such as HIV were exempted from the study because they do not provide answers/insights into the research question being explored.

Finally, 158 articles were assessed for eligibility at the level of full text screening. The graduate student initially screened the 158 articles and created a file for eligible articles. The primary researcher then met the RAs to review all 158 articles collectively at three different

meetings and agreed on the articles exempted. The discrepancies were resolved through discussion using the research question as a filtering lens. All studies that focused on the medical causes of maternal mortality, not involving Nigeria, or addressed questions not related to the research question were excluded. Articles that could not be retrieved online or through the library were also exempted because of unavailability. A total of 35 articles were considered eligible for inclusion in the study. The primary researcher read all the 35 articles and drafted an initial summary table containing key information from each article and sent it to the graduate advisory committee accompanied by a list of all the included articles. There was feedback on the level of details in the summary table from some of the GAC members and the necessary correction was implemented.

Rerun searches were done from time to time to ensure all the available articles were captured and new articles included. The last search was done June 2019 and no new articles related to the research study were retrieved. Figure 2 shows the initial number of articles retrieved and the number of excluded articles at each screening stage up to the final number of articles included in the final scoping review.

3.3.4 Charting the Data

A descriptive summary of the relevant literature and abstracts on the impact of sociocultural practices on maternal mortality was created, and a table showing relevant information was developed (Table 3-2). The total number of articles included in the study and the key features represented on the data summary table are represented in Figure 3-1 and Table 3-2 respectively. The findings recorded common themes and key issues identified from the literature. The data extraction table (Table E-1, Appendix E) was sent to the research team for review to ensure key information from each study was extracted and accurately documented. The

articles were reviewed by two members of the advisory committee (Dr. Petrucka & Dr. Maposa) and two independent researchers also reviewed twenty-five percent of the articles to ensure accuracy, consistency, and completeness of documented information. Feedback was provided, and necessary correction was implemented.

Figure 3-1. PRISMA flow diagram for scoping review

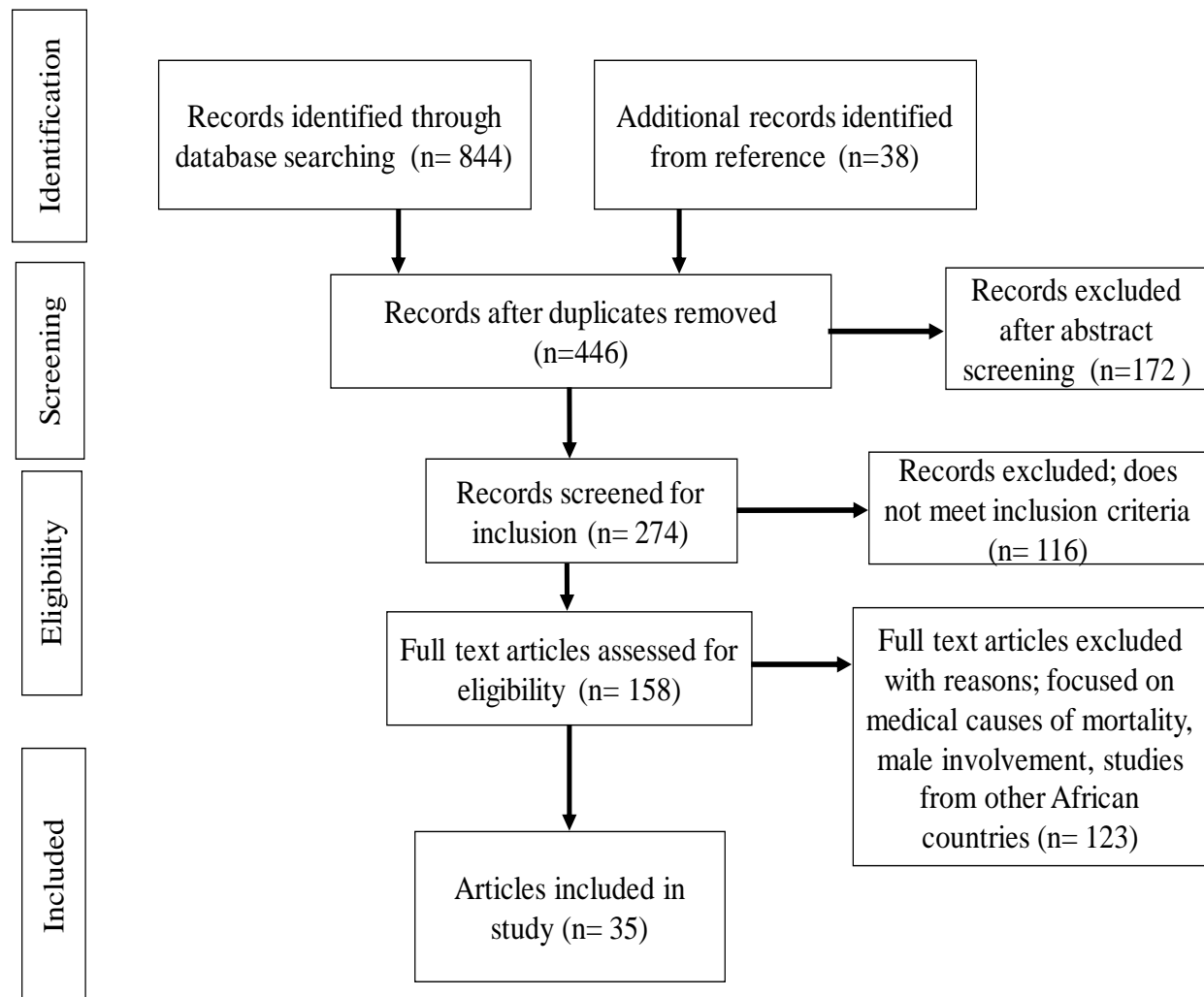


Table 3-2. Template of Data Summary Table

S/N	Author	Title/ Source	Subject term/ keywords	Objectives	Tools/ Design	Study population/ Sample size	Methodology	Key sociocultural findings
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3.3.5 Collating, Summarizing, and Reporting Results

Findings from the study were meaningfully interpreted and discussed. The sociocultural practices that impact mortality were grouped as mentioned by each author and later summarized as positive, neutral, and negative factors/practices using the PEN-3 model. The findings were addressed vis-à-vis the purpose of the study and the insights provided will be used to inform maternal health care practice, and policy reform. The findings from this study will also provide insight into future research and potentially guide or inform interventional studies that focus on reducing maternal mortality.

3.3.6 Consultation Phase

The final consultation phase of a scoping review is optional (Arksey & O'Malley, 2005). When implemented, it involves meeting with the stakeholders to discuss the results, identify potential references that may be relevant to the study, and validate the findings (Armstrong et al., 2011; Arksey & O'Malley, 2005; Colquhoun et al., 2014; Levac et al, 2010). The consultation phase was not included in this scoping review because it is beyond the scope of the study and the short timeframe in which the study was conducted, but the findings will be published and shared with relevant Nigerian stakeholders (e.g., the Nursing & Midwifery Council, Ministry of Health - Reproductive Unit, and the WHO country office) and at women/ maternal health conferences.

3.4 Ethical Considerations

Articles used for this scoping review titled *Impact of select sociocultural practices on*

maternal mortality in Nigeria were publicly available and accessible online for use by the public. Therefore, since this research does not directly involve humans and has no known associated risks, it fulfilled the exemption rule for ethical approval stated in the Tri-Council Policy Statement article 2:2 (CIHR, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2010). However, the researcher submitted the study proposal to the University of Saskatchewan Behavioral Ethics Review Board (Beh-REB) for review and a letter of exemption was obtained from Beh-REB for the study to proceed.

Chapter 4 Results

This chapter is organized into five sections: (a) brief summary of the article selection process; (b) description of characteristics of studies; (c) description of research designs, objectives, and theoretical frameworks; (d) exploration of themes, authors, and numbers of articles; (e) categorization into the PEN-3 domains.

4.1 Summary of Article Selection Process

A total number of 882 articles were retrieved from the overall search; with 844 retrieved from the eight databases and 38 articles from hand searching reference lists of journals. Following the removal of duplicates and screening of abstracts, 158 full text articles were assessed for eligibility. Of these 158 eligible studies, 123 articles were excluded primarily because they were irrelevant to the research question, focused on medical causes of maternal mortality, male involvement in maternal health, or child mortality, and/or focused on other countries. This determination about excluded articles was made by the agreement between primary researcher and secondary reviewers and as a result, 35 articles were included in the final scoping review (see Appendix D). Articles included in the literature identified sociocultural practices or factors that contribute to an increase/decrease maternal mortality rate in Nigeria.

4.2 Study Characteristics

The publication dates of selected articles ranged from 1990 to 2018 with the majority (66%) of the articles published between 2010 and 2018. Twenty percent of the studies were published between 2000 and 2009, while, fourteen percent were published between 1990 and 1999. Findings from the study showed increased publication in the last decade which may reflect increasing research conducted to mitigate maternal mortality in Nigeria over the last decade.

Most of the reviewed articles identified with one of the six geopolitical zones where studies were conducted. Four studies were conducted in North East Nigeria, one in North Central, six in South West, five in South East, eight in South South and none from North East Nigeria. Two studies were conducted across two different geopolitical zone (i.e., one study across North East and North West and the other study across South East and South South). However, in the case of the literature reviews, multiple geographical locations were reflected.

The majority of articles (94%) were published in various journals and two academic contributions (one thesis and one dissertation). Three of the studies were included in the *Journal of Obstetrics and Gynaecology*, two in the *African Journal of Reproductive Health*, two in *Studies in Family Planning*, and one in each of these nursing journals - *Journal of Transcultural Nursing* and *Journal of Nursing Research*. The remaining 24 articles were found in 24 different multidisciplinary journals including women's health, women and birth, health sciences and research, pregnancy and birth, social sciences, midwifery, reproductive health, and behavioural sciences. The wide range and spread of the journals made it difficult to search by journals and also reinforced the need for nurses to take actions towards contributing to nursing knowledge minimizing maternal mortality in Nigeria. Relevant grey literature was included in the write-up as supporting evidence or for statistical/empirical representation.

4.3 Methodological designs, Objectives, and Theoretical Frameworks

4.3.1 Methodological and Research Designs

The mixed method approach dominated the methodological designs (10/35), followed by quantitative studies (9/35), literature reviews (9/35), and qualitative studies (7/35). Figures 4-1 and 4-2 show the diverse research design used by the different authors in the articles. The variability in the methodological approaches and research designs shows the aspect of maternal mortality that the authors wish to address.

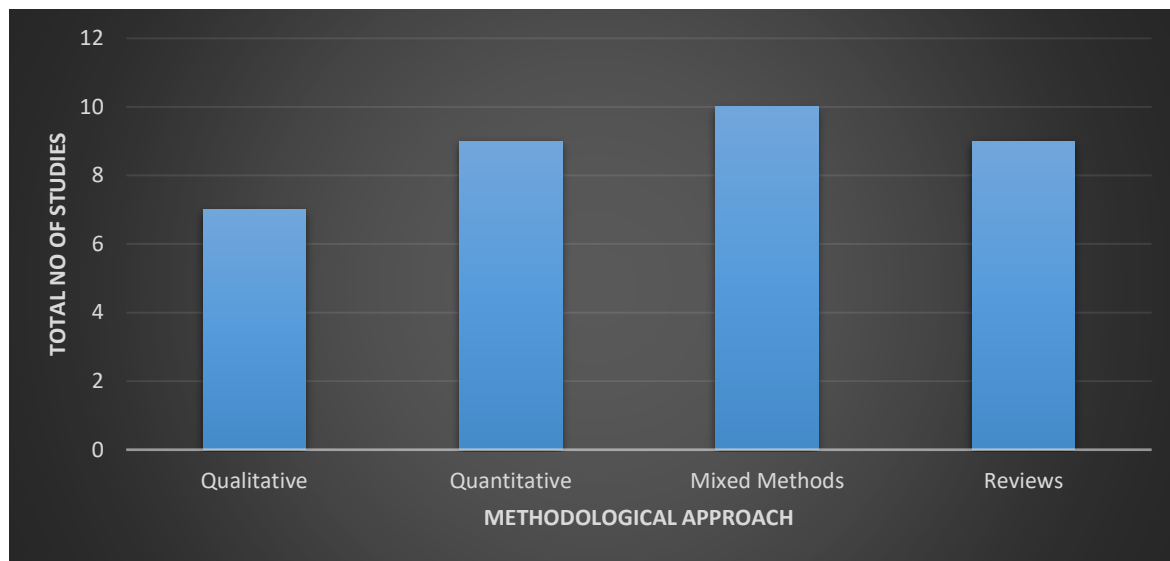


Figure 4-1. Methodological Approach of Included Articles

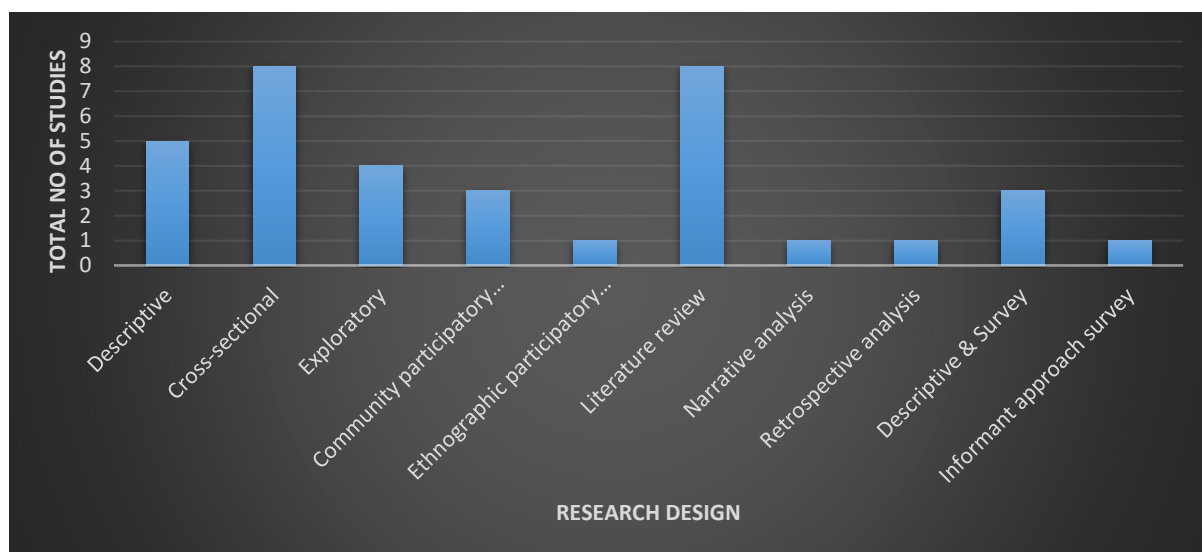


Figure 4-2. Research Designs of Included Studies

The data collection instruments for the qualitative articles were mainly semi-structured interviews and focus group discussions, while the quantitative articles utilized structured questionnaires and secondary data, but primarily descriptive analysis.

4.3.2 Studies Objectives

The objectives that guided the studies included in this scoping review were descriptive and exploratory in nature. Some of the key words used in the 41 studies to state the objectives were “explore,” “discuss,” “determine,” “examine,” “understand,” “explore,” “identify,” “describe,” and “understand.” The word cloud revealed the objectives of the 35 articles included in the final scoping review, with the text size based on the rate of recurrence in the objectives. A total of 595 words (excluding common words) were uploaded into the Word Art to create the word cloud.



Figure 3-3 Study Objectives as a Word cloud

4.3.3 Theoretical Frameworks

Of the 35 articles included in the review, 27 studies did not include a conceptual framework with the remaining 8 using guiding conceptual or theoretical frameworks. The conceptual frameworks were used to frame study analysis and inform the discussion of findings in three of the eight studies (Ariyo et al., 2017; Esienumoh et al., 2016; Lang-Balde & Amerson, 2018). In the five other studies, the conceptual frameworks were briefly described but not utilized as guiding framework nor analytic tool (Azuh et al., 2015; Idowu, 2013; Nwokocha, 2007; Onyema, 2011; Ugwu & de Kok, 2015). Likewise, the relevance of the conceptual

framework to each study was not explored, which might suggest a poor application of the conceptual framework. The characteristics of the articles included in this scoping review are listed in Table G-1 (Appendix G).

4.4 Themes, Authors, and Number of Articles

The 35 articles focused on diverse sociocultural factors that may have positive, neutral, or negative impacts on maternal mortality in Nigeria. Findings from this study are categorized as social factors/practices or cultural norms/practices and whether the interaction between these factors/practices increase, decrease, or have neutral impact on the risk for maternal mortality. Women's limited decision-making autonomy is associated with the patriarchal system in Nigeria, illiteracy, poverty, limited economic empowerment, religious influences/practices, gender discrimination, and inadequacies in the modern healthcare system structures are the major social factors and negative influencers of maternal mortality (see Table 4-1). The cultural practices, norms, or beliefs, such as high parity, early child marriage, nutritional taboos, use of traditional birth attendants, traditional practices, and FGM, are categorized as positive, neutral, or negative perceptions or nurturers of maternal mortality during the prenatal, perinatal, or postnatal period (see Table 4-3). The social factors/practices and cultural norms/practices are highlighted in Tables 4-1 and 4-2 respectively.

Table 4-1. Social factors/practices, common themes, and authors.

Category	Themes	Author (s)	Number of articles

Social factors/practices	Illiteracy	Airede & Ekele, 2003; Amodu et al., 2017; Ariyo et al., 2017; Azuh et al., 2017; Idowu, 2013; Lawani, et al., 2016; Marchie, 2012; Odekunle & Odekunle, 2017; Ogu et al., 2016; Odekunle 2016; Onyema, 2011; Shamaki & Buang, 2015; Shamaki & Buang, 2014; Wall, 1998.	14
	Poverty	Ajiboye & Adebayo, 2012; Marchie, 2012; Amodu et al., 2017; Ariyo et al., 2017; Azuh et al., 2015; Igberase et al., 2009; Lawani, et al., 2016; Marchie & Anyanwu, 2009; Asowa-Omorodion, 1997; Okafor & Rizzuto, 1994; Ogu et al., 2016; Onyema, 2011.	12
	Gender inequality/discrimination	Azuh et al., 2015; Chukuezi, 2010; Evans, 2013; Odekunle & Odekunle, 2017; Ogu et al., 2016; Shamaki & Buang, 2014	6
	Limited decision-making autonomy	Airede & Ekele, 2003; Ajiboye & Adebayo, 2012; Amodu et al., 2017; Ariyo et al., 2017; Asowa-Omorodion, 1997; Azuh et al., 2015; Doctor et al., 2012; Esienumoh et al., 2016; Evans, 2013; Idowu, 2013;	15

		Marchie & Anyanwu, 2009; Marchie, 2012; Odekunle & Odekunle, 2017; Onyema, 2011; Shamaki & Buang, 2015.	
	Poor women (economic empowerment) or low socioeconomic status	Adeusi et al., 2014; Airede & Ekele, 2003; Azuh et al., 2017; Lawani, et al., 2016; Marchie, 2012; Odekunle & Odekunle, 2017; Ogu et al., 2016.	7
	Religion (purdah and supernatural beliefs)	Adeusi et al., 2014; Amodu et al., 2017; Ariyo et al., 2017; Chukuezi, 2010; Doctor et al., 2012; Esienumoh et al., 2016; Lawani, et al., 2016; Odekunle 2016; Ogu et al., 2016; Okolocha, 1998; Shamaki & Buang, 2014; Shamaki & Buang, 2015; Ugwu & de Kok, 2015; Wall, 1998.	14
	Modern healthcare workers/system	Ajiboye & Adebayo, 2012; Asowa-Omorodion, 1997; Azuh et al., 2017; Lawani, et al., 2016; Marchie & Anyanwu, 2009; Ogu et al., 2016; Onyema, 2011.	7
	Poor spousal support	Adeusi et al., 2014; Airede & Ekele, 2003; Chukuezi, 2010.	3
	Poor/ineffective referral policies or delayed	Chiwuzie et al., 1995; Igberase et al., 2009; Okafor & Rizzuto,	5

	referral	1994; Onyema, 2011; Ugwu & de Kok, 2015.	
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Table 4-2. Cultural norms/practices, common themes, and Authors

Category	Themes	Author (s)	Number of articles
Cultural norms/beliefs/practices	High parity (due to preference for male children, large family, and women's ceremonial celebration)	Ajiboye & Adebayo, 2012; Asowa-Omorodion, 1997; Azuh et al., 2017; Chukuezi, 2010; Lang-Balde & Amerson, 2018; Marchie & Anyanwu, 2009; Nwokocha, 2007; Odekunle & Odekunle, 2017; Odekunle 2016; Okolocha, 1998; Shamaki & Buang, 2014.	11
	Female genital mutilation/gishiri cuts	Amodu et al., 2017; Chukuezi, 2010; Evans, 2013; Marchie & Anyanwu, 2009; Marchie, 2012; Shamaki & Buang, 2014; Shamaki & Buang, 2015; Wall, 1998.	8
	Early marriage/childbearing	Airede & Ekele, 2003; Amodu et al., 2017; Ariyo et al., 2017; Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Marchie & Anyanwu, 2009; Marchie, 2012; Odekunle 2016; Shamaki & Buang, 2014; Shamaki & Buang, 2015; Wall, 1998.	12

	Pregnancy/birth beliefs (pregnancy disclosure and diagnosis; birth process and complication; and aversion for C/S)	Adeusi et al., 2014; Ajiboye & Adebayo, 2012; Chiwuzie et al., 1995; Evans, 2013; Ezeama & Ezeamah, 2014; Lang-Balde & Amerson, 2018; Odekunle 2016; Okafor & Rizzuto, 1994; Okafor, 2000; Okolocha, 1998; Ugwu & de Kok, 2015.	11
	Preference for/use of TBAs for birthing	Amodu et al., 2017; Doctor et al., 2012; Esienumoh et al., 2016; Igberase et al., 2009; Marchie & Anyanwu, 2009; Odekunle 2016; Ogu et al., 2016; Okafor & Rizzuto, 1994 Okafor, 2000; Okolocha, 1998; Onyema, 2011; Ugwu & de Kok, 2015.	12
	Nutritional taboos/restriction	Chiwuzie et al., 1995; Chukuezi, 2010; Esienumoh et al., 2016; Evans, 2013; Ezeama & Ezeamah, 2014; Idowu, 2013; Odekunle 2016; Ogu et al., 2016; Okafor, 2000; Okolocha, 1998; Shamaki & Buang, 2015.	11
	Patriarchal systems and beliefs	Azuh et al., 2017; Chukuezi, 2010; Ugwu & de Kok, 2015; Wall, 1998.	4
	Traditional practices (use of herbs, roasting	Asowa-Omorodion, 1997; Ekanem et al., 2004; Evans,	13

	on hot beds, hot bath, nursing in heated room, abdominal hot compress, sitz bath, and alcoholic drink or beverage and gruel consumption)	2013; Idowu, 2013; Iliyasu et al., 2006; Lawani, et al., 2016; Okafor & Rizzuto, 1994; Okafor, 2000; Okeke et al., 2013; Okolocha, 1998; Shamaki & Buang, 2014; Shamaki & Buang, 2015; Wall, 1998.	
	Customary home birth and kunya or modesty in childbirth	Doctor et al., 2012; Shamaki & Buang, 2015; Wall, 1998	3
	Consumption of nutritious and spicy foods	Ekanem et al., 2004; Iliyasu et al., 2006; Okafor & Rizzuto, 1994	3
	Postnatal seclusion/confinement	Iliyasu et al., 2006	1
	Abstinence from sexual intercourse	Ekanem et al., 2004; Iliyasu et al., 2006	2
	Family influence in choice of healthcare services	Amodu et al., 2018; Azuh et al., 2015; Esienumoh et al., 2016; Lang-Balde & Amerson, 2018	4
	Omugwo & rooming in	Ekanem et al., 2004; Okafor, 2000	2

Some sociocultural practices may directly or indirectly harm women either due to women's inaction, type of care, or social status within the community (Evans, 2013). Illiteracy, poverty, early child marriage, limited women's empowerment, gender discrimination, and limited decision-making ability are all factors that affect women's social status and limit access

to healthcare services or the resources necessary to avert pregnancy/birth complications or minimize the risk of maternal mortality (Airede & Ekele, 2003; Ajiboye & Adebayo, 2012; Amodu et al., 2017; Ariyo et al., 2017; Asowa-Omorodion, 1997; Azuh et al., 2017; Azuh et al., 2015; Chukuezi, 2010; Evans, 2013; Idowu, 2013; Igberase et al., 2009; Lawani, et al., 2016; Marchie, 2012; Marchie & Anyanwu, 2009; Odekunle 2016; Odekunle & Odekunle, 2017; Ogu et al., 2016; Okafor & Rizzuto, 1994; Onyema, 2011; Shamaki & Buang, 2015; Shamaki & Buang, 2014; Wall, 1998). Women's inaction and the type of preferred maternal health care sought or utilized are influenced by their cultural beliefs or traditional practices, such as kunya or modesty during childbirth (Doctor et al., 2012; Wall, 1998). Also common were misconceptions about pregnancy/birth complications (Adeusi et al., 2014; Lang-Balde & Amerson, 2018; Odekunle 2016; Ugwu & de Kok, 2015); or perceived skill competence of TBAs over modern healthcare providers (Amodu et al., 2017; Esienumoh et al., 2016; Odekunle 2016; Ogu et al., 2016).

These sociocultural practices influence how women perceive, diagnose, and manage their health, health-seeking behaviour, and engagement in health promotion activities (Airhenbuwa & Iwelunmor, 2012). The negative impacts of sociocultural factors increase women's risk and susceptibility to maternal mortality. Therefore, it is essential to gain an improved understanding of these sociocultural factors to culturally situate interventions that mitigate maternal mortality and acknowledge women's health needs within their cultural context.

4.5 Categorization to PEN-3 Domains

Table 4-3 provides a summary of the cultural empowerment/relationships and expectations domains of PEN-3 model that were used to provide a broader perspective on sociocultural factors that influence maternal mortality. Findings are itemised and compared

between each domain's PEN features. For example, sociocultural practices impacting maternal mortality in Nigeria are contrasted between the relationships and expectations domain (perceptions, enablers, and nurturers) and the empowerment domain (positive, existential, and neutral). The PEN-3 guide the framework for assessing sociocultural practices impacting maternal mortality/development of strategies or programs that can reduce maternal mortality issues in Nigeria. For this study, beliefs and practices about reproduction, regardless of who administers/delivers these practices would be categorized under perceptions, sociocultural traditions related to gender roles and family are categorized as nurturers, while enablers are community and healthcare system resources.

Table 4-3 PEN-3 cultural relationships/expectations and empowerment domains of sociocultural practices.

Relationship and Expectation domain	Findings	Cultural Empowerment Domain		
		Positive	Existential/ neutral	Negative
Perceptions	Female genital mutilation			×
	Beliefs about hospital birth/ perception of modern health care providers			×
	Pregnant women avoid walking in the sun	×		
	Pregnant women avoid walking at night	×		
	Sleeping on the side (not on the back or the stomach)	×		
	Pregnancy non-disclosure/secrecy			×
	New moon appearance, skin color changes, vomiting, and vision about babies as pregnancy diagnosis		×	
	Edema in pregnancy interpreted as having a male child			×
	Use of knots and safety pins at the edge of the wrapper		×	
	Disabled people not allowed to cross pregnant woman's feet		×	
	Pregnancy massage			×
	Harmful birth practices e.g., insertion of jute leaves to induce labour,			×

	ingestion of herbal concoction to reduce fetal size, and use of fundal pressure to enhance labour progress.			
	Gishiri cut			×
	Aversion for Caesarean section and/or preference for home delivery			×
	Prolonged/obstructed labour due to disobedience to gods, infidelity or infringement of taboos			×
	Beliefs about ideal birth/ kunya (modest delivery)			×
	Roasting on hot beds			×
	Nursing in heated rooms			×
	Consumption of spicy nutritious food	×		
	Gruel consumption			×
	*Sitz bath		×	
	*Abdominal hot compress		×	
	Food restrictions or taboos			×
	Alcohol consumption			×
	Confinement/seclusion		×	
	Use of traditional herbs and medicine			×
Enablers	Poor/lack of maternal education			×
	Poverty			×
	Poor insurance scheme/policy			×
	Dysfunctional healthcare system/structure			×
	Use of TBAs as caregivers		×	
	Delayed referral			×
	Supernatural/religious leader's			×

	influence			
Nurturers	Gender discrimination			×
	Female role relegation to reproductive function			×
	Women's disempowerment			×
	Spousal dependence for finance			×
	Patriarchal belief system			×
	Limited women autonomy/decision making			×
	Early marriage/childbearing			×
	Preference for male child and/or large family			×
	Ceremonial celebration of women with high parity			×
	Purdah			×
	Omugwo & rooming in	×		
	Delayed resumption of coitus	×		

Table 4-4 3x3 relationship between cultural empowerment and relationships/expectations

Domains	Positive	Existential	Negative
Perceptions	4	6	16
Enablers	-	1	6
Nurturers	2	-	10

This scoping review revealed 30 out of the 35 articles placed more emphasis on negative sociocultural practices that impact maternal mortality in Nigeria which may be due to the subject (maternal mortality) being explored. Inference from the findings reveals the need for additional

participatory research to explore and understand positive and existential implications of maternal cultural practices.

Chapter 5 Discussion of Findings

5.1 Overview

The findings of the scoping review, implications, recommendations for future research, and limitations are discussed in this chapter. In this scoping review, the articles focused on sociocultural practices/factors common in pregnancy, during labour/delivery, and in the postnatal period that predispose or influence the risk of maternal mortality. The publication dates of the articles ranged from 1990 to 2018 and captured different social factors and cultural practices across the diverse ethnicities and geographical contexts in Nigeria. The findings provide answers to the sub-research questions under the overarching research question: “what sociocultural practices are reported in the literature as impacting maternal mortality in Nigeria between 1990 and 2018?”

The major findings are discussed with reference to the PEN-3 model (focusing on two of the three domains - cultural empowerment and cultural relationships/expectations domains), which provides a cultural lens for examining the values and beliefs that promote or deter from women’s health with emphasis on individual and community influences (Airhihenbuwa & Iwelunmor, 2012). The PEN-3’s 3 by 3 matrix (see Table 4-4) was created to assess and review the interactions between the two domains as seen in other PEN-3 model studies (Airhihenbuwa & Webster, 2004; Cowdery, Parker, & Thompson, 2010) to help capture the enumerated impacts of sociocultural practices on maternal mortality from positive to negative outlined in Table 4-3. The social construct of this scoping review relates to enablers that promote or hinder health activities, while the cultural construct deals with widely held beliefs, values, and attitudes (perception) that influence people or communities (nurturers) regarding engagement in health behaviours in either positive, neutral, or negative way. Therefore, it is essential to look at both

the cultural empowerment and relationships/expectations domains of the PEN-3 model when reporting impacts of sociocultural practices on maternal mortality. From the literature informing this scoping review and the traditional family system (large family sizes, gender/role relationship) that exist in the Nigerian society (Odekunle, 2016; Okolocha et al., 1998), it is possible to reveal and discuss overlaps between PEN-3 cultural empowerment and relationships domains (Iwelunmor et al., 2014) and their impact on maternal mortality. Themes were structured using two identified PEN-3's model domains (i.e., cultural empowerment and cultural relationships and/or expectations) and their sub-components.

5.2 Positive sociocultural impacts of maternal mortality.

Positive sociocultural practices/factors promote women's engagement in health behaviours or health-seeking behaviours which potentially influence optimal maternal health outcome. Notwithstanding contextual variations or overlaps, the positive perceptions, enablers, and nurturers that influence women's health outcome during pregnancy, delivery, and in the postpartum period are discussed herein.

5.2.1 Positive Perceptions

These positive perceptions include knowledge, attitudes, beliefs, or values that influence decisions, promote maternal health, or positively influence health behaviour and reduce the risk of maternal mortality (Airhihenbuwa, n.d.; Airhihenbuwa & Webster, 2004). The positive perceptions in this scoping review revealed select practices during pregnancy that minimize the risk of complication. For example, pregnant women avoid walking at night to prevent falls and avoid other dangers or harm (Adetunji, 1996). The cultural practice of not allowing pregnant women to walk in the sun to prevent the baby from being possessed by evil spirits is helpful in preventing fatigue and severe dehydration associated with the (extreme) hot temperatures

(Adetunji, 1996). Also, pregnant women are often advised to sleep in lateral positions (on their sides) to ensure comfort and reduce the risk of fetal distress (Adetunji, 1996; Lang-Balde & Amerson, 2018). These beliefs and practices advance both the comfort and safety of pregnant women which indirectly reduces the risk of maternal mortality.

During the postpartum period, common activities regarded as positive nurturers include consumption of spicy nutritious food for 30 days postpartum (Ekanem et al., 2004; Iliyasu et al., 2006; Okafor & Rizzuto, 1994), a practice reported to help women recover from pregnancy-related anemia and fatigue (Ekanem et al., 2004; Iliyasu et al., 2006; Okafor, 2000; Okafor & Rizzuto, 1994). Such practices are to be considered and even encouraged, as there are no ill effects and the maternal health benefits have been shown through research and evidence.

5.2.2 Positive Enablers

Positive enablers include resources or institutional structures that facilitate accessibility, availability, and affordability of healthcare services thereby promoting health-seeking behaviours or disease preventing actions, thus minimizing the risk of maternal mortality (Airhihenbuwa, n.d; Airhihenbuwa & Webster, 2004). As shown in Table 4-3, there were no positive enablers, one neutral enabler, and the rest were negative. However, factors such as women's education, empowerment and decision-making autonomy, and improved socioeconomic status together with favourable health insurance policies, healthcare policies and structures, and positive attitudes of healthcare professionals could enhance maternal health choices. Additionally, engagement in health promotion activities can accelerate the utilization and uptake of healthcare services essential in preventing maternal mortality (Ajiboye & Adebayo, 2012; Ariyo et al., 2015; Azuh et al., 2015; Harrison, 2009; Marchie, 2012; Odekunle, 2016; Odekunle & Odekunle, 2017; Ogu et al., 2016).

5.2.3 *Positive Nurturers*

Positive nurturers are supporting influences from family, friends, and within the community that promote healthy behaviour, and minimize the risk of maternal mortality (Airhihenbuwa, n.d; Airhihenbuwa & Webster, 2004). These positive nurturers include family traditions, practices, norms or values that are supported by family members during pregnancy, labour, or post-delivery. During the postpartum period, common activities regarded as positive nurturers include ‘omugwo’ (Okafor, 2000), rooming in (Ekanem et al., 2004), and delayed resumption of coitus (Anzaku & Mikah, 2014; Ekanem et al., 1994; Okeke et al., 2013). These postpartum practices supported by family and friends hasten recovery from puerperal stress and help women return to their pre-gravid state (Dike, 2013; Ekanem et al., 2004; Iliyasu et al., 2006; Okafor & Rizzuto, 1994). Delayed resumption of coitus is beneficial in reducing unwanted pregnancies and illegal abortions (Anzaku & Mikah, 2014; Ekanem et al., 1994; Okeke et al., 2013); thus, reducing susceptibility to maternal mortality. Though delayed coitus after birth for at least 6 weeks is a positive nurturer, it is essential for healthcare professionals to reinforce the importance of family planning in order to reduce unwanted pregnancies, reduce abortion rates, and minimize the risk of maternal mortality.

Omugwo is another cultural practice that is a positive nurturer. Family members’ involvement in omugwo varies across the different ethnic groups, but most importantly, the new mother receives help from family and friends, eats nutritious meals, and enjoys adequate rest which facilitates healing and hastens recovery to the pre-pregnant state (Ekanem et al., 2004; Okafor, 2000). Though conflict may arise due to friction in nurturing skills, its benefits (as stated in Chapter 2) far outweigh its risks. The support parturient women receive during the postpartum period reduces the risk of developing postpartum depression and contributes to positive childbirth, transition to motherhood, and postpartum experiences (Dike, 2013). Cultural practices

that value support during the postpartum period is referred to as “*ethnokinship*” (Dike, 2013) and is common in a number of non-western countries (Dennis et al, 2007). In western countries, immigrants complain of the social vacuum and absence of postpartum support/practices because of the “*technocentric*” and individualistic care culture (Dennis et al., 2007; Dike, 2013), which is not replicated in many developing cultures.

5.3 Existential/Neutral sociocultural impacts on maternal mortality

Some practices are categorized under existential because they have positive impact on women’s health, but their misuse may result in negative consequences. Also, no supportive evidence exists to categorize and improve our understanding of these practices as negative. The influence of some existential perceptions on health choices or behaviours may make the classification of “neutral” for such practices (e.g., sitz bath and abdominal compress) debatable.

5.3.1 Existential/Neutral Perception

These neutral perceptions include practices, beliefs, norms, or values that have no effect on health (pregnancy, birth, or postnatal period) nor contributions to maternal mortality but are unique to a particular culture (Airhihenbuwa, n.d.; Airhihenbuwa & Webster, 2004). Existential perceptions include use of presumptive signs (e.g., new moon appearance) for pregnancy diagnosis or gender assumption (Okafor, 2000; Okafor & Rizzuto, 1994) for which there is no evidence of any positive or negative impact on women’s health. Usage of knots at the edge of wrappers and safety pins on clothes are common among pregnant women to prevent “spirits” from entering their bodies, for which there is no evidence of risk or harm to women during pregnancy or childbirth (Adetunji, 1996). Pregnant women’s avoidance of people with disability in order to avoid birthing a disabled infant implies an exogenous stigma for non-ideal birth outcomes (Adetunji, 1996). These beliefs have neutral impact on maternal mortality unlike the

treatment of convulsion in pregnancy with concoctions or herbs which may lead to miscarriage or death if no urgent medical interventions are offered.

Sitz bath and abdominal hot compress are examples of other existential practices because they have a positive impact on women's health during or post pregnancy, but their misuse/misapplication may result in a negative outcome. Abdominal hot compress, sitz bath, and confinement/seclusion (Ekanem et al., 2004; Iliyasu et al., 2006; Okeke, 2013) are also unique cultural practices that cut across different ethnic groups in Nigeria and are also practiced in some non-Western cultures (Dennis et al., 2007). These are classified as existential perceptions because they pose no apparent threat to women's health but could have mixed impacts on maternal health and wellbeing. The negative impacts may result from undue societal pressure or excessive exposure to heat (i.e., sitz bath, abdominal pressure).

The excessive use of heat during abdominal compress may be dangerous as heat can accelerate the dissolution/adsorption of sutures especially in women who had caesarean section, while the use of hot water during sitz bath may dissolve sutures used for perineal repair, thus, delay perineal healing, increase the risk of burn injury, or cause wound dehiscence (Ekanem et al., 2004; Okeke et al., 2013). There is no substantial evidence to prove these practices have negative implications on women's health. Though abdominal compress and sitz bath have been reported to aid uterine involution and perineal healing (Ekanem et al., 2004; Iliyasu et al., 2006; Okeke, 2013), extreme use of heat/uncontrolled heat may predispose the mothers to burn injuries. There is no evidence to discourage sitz baths, but, rather sitz baths have been identified to aid healing of episiotomy, perineal tear, or anal fissures and reduce perineal infections (Healthlink BC, 2017; Stewart et al., 2017; University Health Network, 2016). Hence, use of sitz baths and abdominal hot compresses may continue under proper guidance and information on

safe temperature control as neutral enablers.

5.3.2 Existential/Neutral Enablers

An example of an existential enabler in this study is the use of TBAs as caregivers (Okafor & Rizzuto, 1994) which is a long-standing practice in the Nigerian culture/society (Amutah-Onukagha et al., 2017; Ohaja & Murphy-Lawless, 2017) and other African nations. Traditional birth attendants provide culturally sensitive, comprehensive care, and support to pregnant women during and after childbirth especially in rural areas where women do not have access to healthcare centers with advanced maternal care (Amutah-Onukagha et al., 2017; Ohaja & Murphy-Lawless, 2017). Though TBAs have a positive impact on women's health, their potential engagement in harmful practices, late referrals to hospitals, and manipulations of fetal positions during complicated birth can jeopardize women's health and increase the risk of maternal mortality (Okafor et al., 2014; Okafor & Rizzuto, 1994).

Reports of TBAs' failure or delay in making a referral to healthcare facilities and harmful delivery practices, which increase maternal mortality risk, have contributed to the controversy regarding TBA services (Amutah-Onukagha et al., 2017; Itina, 1997; Okafor et al., 2014; Okafor & Rizzuto, 1994). Despite the challenges, TBAs are useful resources in rural areas where modern healthcare facilities are limited or absent (Ohaja & Murphy-Lawless, 2017; Okafor et al., 2014) and many pregnant women see TBAs as critical culturally appropriate healthcare providers (Akeju et al., 2016; Amutah-Onukagha et al., 2017; Babalola & Fatusi, 2009; Okonofua et al., 2018). The roles of TBAs as support persons, doulas, or caregivers should be encouraged in order to promote health seeking behaviours, timely referrals, utilization of maternal health services, and provide culturally competent care. According to Dike (2013), the support labouring women receive from TBAs improves their birthing experience. However, it is critical to speed up

TBAs decision-making capacity for timely biomedical interventions or prompt early referrals to modern health centers when complication occurs (Dike, 2013). The recognition of TBAs as caregivers, birth companions, or support persons during childbirth in well-resourced/equipped health clinics may discourage home delivery among women and mobilize their utilization of healthcare services within their communities as a possible strategy to reduce maternal mortality. TBAs together with cultural knowledge holders and maternal health activists may facilitate acceptance of modern healthcare services even amongst the most ardent cultural adherents and are useful resource persons in enhancing behavioural change.

5.3.3 *Existential/Neutral Nurturers*

In this study, there are no sociocultural practices categorized under existential nurturers as issues highlighted under nurturers include gender related challenges and increasing parity. Additional research may be needed to explore existential nurturers not previously reported in literature.

5.4 Negative impacts of sociocultural practices on maternal mortality

As previously noted, culture is often perceived to have a negative influence on health; however, the PEN-3 model emphasizes the importance of acknowledging the positive and existential or neutral impacts of culture on health as key building blocks for successful implementation of health interventions. In this section, negative perceptions, enablers, and nurturers are discussed. For example, relegation of the female role to the reproductive function, which falls under negative perceptions will be discussed under the patriarchal belief system, which is a further negative enabler. Such overlap may explain the complexities between culture and health.

5.4.1 *Negative Perceptions*

Negative perceptions include practices, traditions, or values that contribute to increased maternal mortality rate. Female genital mutilation (Doctor et al., 2012; Odekunle, 2016; Shamaki & Buang 2015), gishiri cuts (Wall, 1998), and harmful traditional practices (Evans, 2013; Idowu, 2013; Lawani, et al., 2016; Okeke et al., 2013; Shamaki & Buang, 2015; Shamaki & Buang, 2014) are the negative perceptions that potentially increase the risk of maternal mortality. FGM and gishiri cuts may lead to lifelong psychological and reproductive related illnesses or even death resulting from complications during pregnancy or childbirth process (Amodu, 2018; Doctor et al., 2012; Odekunle, 2016; Shamaki & Buang 2015). Mutilated or circumcised women are at risk of obstructed and prolonged labour, hemorrhage, and complicated birth processes, such as caesarean section, depending on the type or severity of FGM (Amodu et al., 2017; Doctor et al., 2012; Odukogbe et al., 2017; Shamaki & Buang, 2015). For instance, obstructed labour/vulvar laceration may result from infibulation, while severe hemorrhage and neonatal death may be due to type III FGM (Odukogbe et al., 2017).

In addition, negative perceptions about modern health care facilities/workers (Ajiboye & Adebayo, 2012; Lawani, et al., 2016; Ogu et al., 2016), and misconceptions about pregnancy/birth complications, (Adeusi et al., 2014; Ajiboye & Adebayo, 2012; Evans, 2013; Ezeama & Ezeamah, 2014; Okafor, 2000) perpetuate and compound women's vulnerability to health risks. Due to the increased maternal mortality rate, healthcare providers need to educate women and community stakeholders on the dangers of FGM and future implications. Community mobilization, expanding conversations with and/or training of religious leaders may help increase awareness about FGM dangers.

Beliefs about ideal birth (Doctor et al., 2000) and modest delivery ('Kunya') may delay the utilization of health care services (Doctor et al., 2000; Shamaki & Buang, 2014; Wall, 1998).

Thus, these may be considered as negative perceptions because of their influence on maternal healthcare choices, and decisions about health care. For instance, beliefs about ideal childbirth was reported to cause strong aversion for caesarean section and other methods of delivery because every woman wants to have a supernatural childbirth (painless vaginal delivery) (Dike, 2013; Ugwu & de Kok, 2015). Likewise, the practice of modesty during delivery and stoicism especially among Northerners may prevent women from asking for help even when danger is imminent (Doctor et al., 2000; Shamaki & Buang, 2014; Wall, 1998). Although these beliefs have no direct influence on health, the societal emphasis, the accompanying stigmatization of women who do not meet the cultural standard for pregnancy, or the perceived negative outcomes often complicate the preference for type of care including delayed referrals for those women with risk of complications. Hence, the urgency of addressing sociocultural factors that increase the risk of maternal mortality cannot be understated. It may be essential for healthcare workers with advanced knowledge and understanding of pregnancy and childbirth processes to discuss with women the implications of rejecting medical interventions due to cultural beliefs or practices.

Another common belief that hinders utilization of maternal healthcare services is the untoward perception about negative attitudes of healthcare providers during hospital birth. The perception that healthcare workers are rude, unfriendly, and uncaring has led many women to avoid maternal care (Ajiboye & Adebayo, 2012; Lawani, et al., 2016; Ogu et al., 2016) and, invoke a preference for home deliveries versus hospital births. Home delivery increases women's risk of maternal mortality should complication arise during childbirth; therefore, emphasizing the importance of communication and interpersonal skills in healthcare curriculums may help resolve access barriers to healthcare resulting from perceptions that health workers have poor attitudes. Similarly, some cultural perceptions such as perceived fear of death attributed to

hospital birth prevents women from using healthcare services (Doctor et al., 2012). That is, some pregnant women perceive they are more likely to die if they deliver in the hospital. This belief about hospital birth stems from old tradition passed orally from one generation to another. Though hospital birth is not customary in Northern Nigeria (Doctor et al., 2012; Shamaki & Buang, 2015), with increased awareness, training, and education of more female healthcare providers, access and utilization of health care services can be improved.

As noted, misconceptions about signs of pregnancy/birth complication and harmful traditional practices pose a threat to women's health and increase the risks of maternal mortality. While these misconceptions may delay referral to health care facilities (Chiwuzie et al., 1995; Igberase et al., 2009; Onyema, 2011), some harmful practices, previously explained in Chapter 2, predispose women to infection, uterine rupture, or hemorrhage, which increases the mortality rate. Since training of TBAs potentially reduces unsafe practices and increases hospital referrals during obstetrics complications (Dorwie & Pacquiao, 2014), TBA involvement/training may be critical to facilitating timely referral which is vital in reducing maternal mortality rate (Amutah-Onukagha et al., 2017; Ohaja & Murphy-Lawless, 2017). Therefore, community mobilization and awareness, and training of TBAs who may also serve as maternal health delegates within the community is recommended in order to discourage or reduce unsafe practices and promote maternal healthcare services.

Late or non- disclosure of pregnancy (Ezeama & Ezeamah, 2014; Lang-Balde & Amerson, 2018; Okafor & Rizzuto, 1994) and pregnancy massage (Adokiye et al., 2016; John, Esienumoh, Nseme, & Yagba, 2017) are also considered as negative perceptions. Women often keep pregnancy as a secret in order to avoid evil manipulation from diabolic people or a possible miscarriage may be detrimental for at risk pregnancies. This context may reduce the number of

antenatal care visits recommended by WHO (2016), reduce the chances of identifying at risk pregnancies, and thus increase the risk of maternal mortality.

Evidence has shown that pregnancy massage reduces anxiety, relieves tension, and emotional stress (Adokiye et al., 2016; Field et al., 2008; Field et al., 2004), enhances sleep, relieves back and leg pain, reduces negative mood, and relieves headache (Field et al., 2008; Field et al., 2004; John et al., 2017). Though pregnancy massage is a common practice in the South South region of Nigeria, it may become a negative perception if it is used as a replacement for antenatal services or when conducted by non-professionals (Adokiye et al., 2016; John et al., 2017). A study conducted by Ugboma and Akani (2004) revealed pregnancy massage contributed significantly to maternal mortality, because these massages were performed by non-professional massage therapists or traditional masseuse (John et al., 2017). Ugboma and Akani (2004) also attributed maternal mortality associated with pregnancy massage to maternal demographic and health systems factors such as low education and socioeconomic status as well as to remote health facilities that are ill-equipped to manage pregnancy and childbirth complications.

In order to reduce the risks of abdominal massage, massage should be performed by a professional therapist, avoided in the first trimester to prevent miscarriage, and should never be used to replace antenatal care or follow up (Adokiye et al., 2016; Ugboma & Akani, 2004). Pregnancy massage may be encouraged as a continuous practice in the South South region but not as a replacement for antenatal services in order to properly monitor pregnant women and for early detection of complications. Likewise, massages should be only given by people with appropriate training.

Other cultural practices that are negative perceptions include food restrictions (Evans,

2013; Odekunle 2016; Ogu et al., 2016), alcohol consumption (Ekanem et al., 2004; Okafor & Rizzuto, 1994; Okeke et al., 2013), and gruel consumption (Iliyasu et al., 2006; Shamaki & Buang, 2015; Wall, 1998). Apart from the negative influence of alcohol on breast milk production (Haastrup, Pottgård, & Damkier, 2014), consumption of alcoholic beverages during pregnancy lead to negative pregnancy outcome and induced abortion leading to increase in maternal mortality (Ajiboye & Adebayo, 2012; Asamoah & Agardh, 2012) while gruel consumption increases the risk of death from cardiac and multi-organ failure (Wall, 1998). In some Nigerian cultures, women are disallowed from eating until other members of the family have eaten, leaving them leftovers or insufficient food (Onyema, 2011). These restrictive food practices can predispose women to severe malnutrition and anemia in pregnancy which may result in infection, hemorrhage, and even maternal death (Ajiboye & Adebayo, 2012; Evans, 2013; Esienumoh et al., 2016; Ezeama & Ezeamah, 2014). Thus, discussions with women including those with limited supports/food insecurity or that uphold restrictive cultural food norms for pregnancy and cultural gatekeepers are needed

5.4.2 Negative Enablers

The negative enablers identified in this scoping review are those which limit women's social status in the society and their influence singlehandedly or collectively predispose women to greater risks of maternal mortality. The social factors are illiteracy, poverty, and religion (Ariyo et al., 2017; Asowa-Omorodion, 1997; Azuh et al., 2017; Odekunle & Odekunle, 2017; Idowu, 2013; Lawani, et al., 2016; Marchie, 2012; Odekunle 2016; Ogu et al., 2016; Onyema, 2011; Shamaki & Buang, 2015; Shamaki & Buang, 2014).

Lack of education has a devastating impact on maternal mortality. Lack of education influences level of knowledge, interpretation of health information (Dimbuene et al., 2017), and

utilization of health services (Dimbuene et al., 2017; Simkhada, van Teijlingen, Porter, & Simkhada, 2008; Ujah, Aisen, Mutihir, Vanderjagt, Glew, & Uguru, 2005). Additionally, lack of education influences women's perceptions about health and extent of engagement in certain cultural practices (Dimbuene et al., 2017; Shamaki & Buang, 2014) that inform maternal health decisions. Lack of education among women can hinder early antenatal registration and reduce the number of antenatal visits essential for adequate care, screening, risk assessment, and monitoring of at-risk pregnant women (Airede & Ekele, 2003; Marchie, 2012; Simkhada et al., 2008; Ujah et al., 2005). For example, Somefun and Ibisomi (2016) revealed women without formal education did not utilize postnatal care services because it was perceived to be unimportant and unnecessary. Lack of education has been a major factor contributing to non/underutilization of antenatal care services across Nigeria (Abubakar et al., 2017; Agho et al., 2018; Dimbuene et al., 2017; Fagbamigbe & Idemudia, 2015; Okonofua et al., 2018)

Due to increased awareness, knowledge, and access to electronic health, educated women may use information garnered from the internet to self-medicate and prepare home remedies to treat symptoms instead of seeking immediate treatment from a healthcare professional (Thaddeus & Maine, 1994). When information is used erroneously, there is danger of predisposition which increases women's predisposition to maternal mortality.

Poverty is a major driving force of child marriage, illiteracy, and non-utilization of health care services (Amodu et al., 2017; Doctor et al., 2012). Likewise, utilization of the healthcare system is also affected by poverty and poor insurance schemes and policies (Babalola & Fatusi, 2009; Fabusiwa et al., 2016; Fagbamigbe & Idemudia, 2015; McCarthy & Maine, 1992; Thaddeus & Maine, 1994). The high cost of health services, which an average Nigerian cannot afford, hinders women's access and utilization of health care services even when there is a

perceived danger or complication (Amodu et al., 2017; Doctor et al., 2012; Fagbamigbe & Idemudia, 2015; Idris et al., 2013). Illiteracy of TBAs and misinterpretation of danger signs during pregnancy, childbirth, or postpartum delays referral to the hospital and timely medical interventions, thus increasing risks of mortality (Amutah-Onukagha et al., 2017; Ofili & Okojie, 2005; Okafor et al., 2014).

Another major factor that influences women's health decision and increases risk of maternal mortality risk is religion/spiritual beliefs (Ariyo et al., 2017; Doctor et al., 2012). Religious leaders' disposition during pregnancy and childbirth about modern health care may discourage some of their followers from seeking help from healthcare providers (Odekunle, 2016). Due to religious predisposition, many Nigerians believe any health condition has an underlying spiritual influence or manipulation; hence, the reason women seek protection from spiritual leaders during pregnancy or childbirth.

Educating religious leaders about the implication of these religious practices and holding them accountable for any maternal death within their sphere of influence, may motivate their family/female followers to utilize maternal health services, thus reducing the maternal mortality rate in most affected regions. Health policy makers/providers need to partner with religious leaders to develop strategies for timely referrals to health care facilities to decrease maternal complications. Religious leaders may also be instrumental in educating and re-orienting women about religious preferences/avoidances that may include dietary restrictions and their implications, and as well encourage health promotion activities among women.

5.4.3 *Negative Nurturers*

Common negative nurturers identified in this scoping review include gender discrimination (Azuh et al., 2015), women's disempowerment (Azuh et al., 2016; Chukuezi,

2010; Marchie, 2012; Odekunle, 2016), patriarchal belief system, preference for male children (Dike, 2013; Evans, 2013; Marchie & Anyanwu, 2009; Nwokocha, 2007; Odekunle, 2016), preference for a large family ((Marchie & Anyanwu, 2009; Nwokocha, 2007), ceremonial celebration of women with high parity (Dike, 2013; Okolocha et al., 1998), early child marriage (Amodu et al., 2017; Ariyo et al., 2017) and ‘purdah’ (Ariyo et al., 2017; Doctor et al., 2012). Preference for male children, preference for large family, and ceremonial celebration of ten successful pregnancy called “*igwu ewu ukwu*” were reported to contribute to high parity which is a risk factor for maternal mortality (Evans, 2013; Marchie & Anyanwu, 2009; Nwokocha, 2007; Olapade & Olawoyin, 2008; Solanke et al., 2018).

Grand multiparity increases maternal mortality rate (Ujah et al., 2005). In a comparative study by Mghaya and colleagues (2013), adverse pregnancy outcomes and maternal complications were common among women with high parity (> 5 children) compared to women with less parity. The preference for a large family may be attributed to the value of children in the Nigerian culture (Nwokocha, 2007; Solanke et al., 2018), not only because of parental financial security at old age, but because children enhance the wellbeing of the household and improve family worth and wealth (Dike, 2013). That is to say, in the Nigerian culture, a family is considered incomplete without children. Though the love for a large family does not increase risk of maternal mortality, it is the undue pressure on women to bear a particular number of children or gender that may induce stress and increase the risk of maternal mortality (Dike, 2013).

The preference for male children in many Nigerian families also leads to discrimination against female children. Gender discrimination starts within the family though it may not be obvious to the parents. For example, distribution of chores within the family based on gender or

showing affection to a male child over female counterparts (Adebowale et al., 2012; Allanana, 2013; Kainuwa & Yusuf, 2013; Ogu et al., 2016) are simple acts within patriarchy that can reduce a female child's worth and subsequently lead to male dominance or oppression within the society. Women are reported to engage in the '*igwu ewu ukwu*' practice for social recognition and honour. However, this practice promotes grand-multiparity, reduces acceptance of contraceptive use (Solanke et al., 2018), and increases women's risk of maternal death due to increased risk of uterine rupture or prolapse during the childbirth process (Ntoimo et al., 2018; Odekunle, 2016; Ogu et al., 2016; Okafor, 2000; Okolocha et al., 1998; Olapade & Lawoyin, 2008; Solanke et al., 2018). Practices that promote high parity need to be discouraged in order to minimize maternal mortality rates in Nigeria. Community programs that celebrate women's achievements beyond fertility, such as in academics, business, or career, may be introduced to replace the '*igwu ewu ukwu*' ceremony. Celebrating women's achievements could encourage young girls to pursue their education or chosen career and reduce the rates of child marriage within the Nigerian society.

The promotion of grand-multiparity through ceremonial celebrations may increase women's desperation to have more children even when they are financially incapacitated, hence, leading to persisting early marriage especially for the female child. One of the reasons for early child marriage is a quest for financial security (Amodu et al., 2017; Ariyo et al., 2017). For example, many children (especially females) are school drop outs due to poverty or parents' inability to sponsor their education (Allanana, 2013; Fetuga et al., 2005). Inability to pursue education may result in child labour or sexual exploitation especially among those signed up for apprenticeship or sent to live with relatives (Chukuezi, 2010; Odekunle & Odekunle, 2017; Ogu et al., 2016). The female child may be at risk of abuse or become pregnant leading to early child

marriage or early childbearing. As seen in previous studies, early child marriage increases the risk of maternal mortality due to complications that may arise during pregnancy or childbirth related to the physiologically immature body (Marchie, 2012; Shamaki & Buang, 2014; Wall, 1998).

Similarly, women's disempowerment and limited decision-making autonomy may also be attributed to illiteracy and poverty. Educated women are more likely to be employed as well as economically empowered and able to afford health care services or make decisions about where and when to seek help; hence, less dependent on their partners for financial or health decisions (Azuh et al., 2016; Chukuezi, 2010; Marchie, 2012; Odekunle, 2016; Shamaki & Buang, 2014). The patriarchal traditional system also places limitation on women's decision-making ability especially in the Northern regions (Chukuezi, 2010; Wall, 1998); therefore, changes can be accomplished with female/women education and financial empowerment. Promoting women empowerment programs within the community could also help in eradicating poverty in Nigeria. Given the current population growth that is larger than the available resources, poverty eradication needs to be an integral aspect of interventions to maternal mortality; hence, health care providers need to encourage and increase culturally appropriate awareness of family planning services in order to minimize unwanted pregnancy and facilitate population control. Partnership with community and cultural knowledge holders to explore strategies for rationalizing the desired large family size and promote a balance between population growth and national health resources is essential.

The 'purdah' practice that secludes women from sharing public space with men in Northern Nigeria increases the risk of maternal mortality especially among those with high risk pregnancies due to refusal to seek help from male health care providers (Ariyo et al., 2017;

Doctor et al., 2012; Shamaki & Buang, 2014, 2015; Wall, 1998). Doctor et al. (2012) revealed that 86.9% of respondents in Northern Nigeria had home delivery because they practice purdah which limits women's decision making and social involvement while increasing maternal mortality risk. Religious practices such as purdah (which is more common in the Northern states) complicates the effectiveness of initiatives to stop child marriage. Hence, cultural practices such as purdah need to be addressed and religious laws (e.g., sharia law) promoting this practice needs to be reviewed to minimize mortality rates associated with intentional acts (i.e., a decision on home delivery for those with complicated pregnancies or births).

5.5 Recommendations

The results from this scoping review study made it evident that a lot of work is needed for Nigeria to achieve the global SDG goal i.e., reducing maternal mortality to at least 70 deaths in 100,000 (United Nations, n.d.) by 2030 and favorable maternal health indicators. The concerted effort of health care workers, society, and government (local, social, & federal) is needed to explore ways to reduce maternal mortality. The following recommendations from findings of this scoping review underscore how Nigerian maternal health outcomes are impacted by affordability or cost of healthcare and the sociocultural context influencing maternal health care requires many strategies at the individual, community, or governmental levels.

In general, collaboration and raising awareness on the high maternal mortality incidence across Nigeria's different ministerial portfolios, such as health, gender, education, and finance can facilitate the discussions and reorientation of community and cultural/religious leaders about harmful sociocultural practices.

First, the lack of policy to support the training and/or education of TBAs to influence their attitudes, beliefs, and practices (e.g., misconceptions of signs of complication, or identification of harmful practices, and delayed referral of high risk pregnancies to modern

hospitals) contributes to an increase in maternal mortality (Amutah-Onukagha et al., 2017; Doctor et al., 2012; Lawani et al., 2016; Ogu et al., 2016; Okolocha et al., 1998). Although, in Sierra Leone, training of TBAs and facilitating their integration into the healthcare system reduced maternal mortality (Dorwie & Pacquiao, 2014), the training of TBAs in Nigeria may help promote healthy behaviour given their high acceptance into the community as caregivers or maternal and child health care delegate (Abegunde et al., 2017). Additionally, discouraging the TBAs to conduct home delivery of those with high-risk pregnancies, clarifying or correcting birth misconceptions, and facilitating timely referrals to the hospital during birth should be an essential component of TBA training. Though there is a continuous debate on the use of TBAs, ongoing training, supervisory supports, and monitoring of their activities are essential to achieving a significant reduction in maternal mortality rate among high risk women (Akpabio et al., 2014; Amutah-Onukagha et al., 2017; Ohaja & Murphy-Lawless, 2017). Promoting effective partnerships with TBAs across different Nigerian regions will also be needed to facilitate early referrals and utilization of maternal health care for those with pregnancy and delivery complications. Factors which compound access to health care facilities such as distances or transport to the nearest health care facility in remote locations require innovative community partnerships for pulling resources together (Abodunrin, Akande, Musa, & Aderibigbe, 2010). Also, since TBAs are respected in the community and share similar beliefs with women of childbearing age (Abegunde et al., 2017; Lawani et al., 2016; Ogu et al., 2016), engaging and training them may help increase awareness about cultural practices contributing to maternal mortality and encourage utilization of health care services.

Second, religion and religious practices contribute to the increased risk of maternal mortality in Nigeria due to strongly held religious beliefs and practices that hinder access and

utilization of health services (Ariyo et al., 2017). Also, because religious leaders are highly revered and their actions often unquestioned (Esienumoh et al., 2016; Solanke et al., 2015), engaging them is critical to achieving a reduction in maternal mortality rate. Initiatives that will sensitize and mobilize religious organizations about improvement in maternal health outcomes are necessary. For example, religion-friendly awareness programs targeted at educating religious leaders may help clarify misconceptions and unhealthy practices (e.g., purdah, supernatural birth ideology, or enforcing delivery in faith clinics) contributing to poor pregnancy outcomes and maternal mortality (Solanke et al., 2015). Based on the impact of religion on reproductive health, appointing religious leaders as maternal health delegates may promote health-seeking behaviour among their followers. Likewise, when leaders are held accountable for their followers' health and wellbeing, their commitment to end maternal mortality may be increased.

Third, an uneducated woman is likely a subject of early child marriage, poverty, economic disempowerment, and/or have limited decision making autonomy (Doctor et al., 2012; Marchie & Anyawu, 2012). Likewise, lack of education increases women's engagement in harmful cultural practices, and hinders access and utilization of maternal healthcare services, which increase the risk of maternal mortality (Doctor et al., 2012; Marchie & Anyawu, 2012). Therefore, it is essential for existing educational policies to be reviewed, especially, those that necessitate free primary and secondary education for children. The Nigerian government should work toward the United Nations goal that "By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes" (United Nations, n.d.). This would include, access to free education (primary and secondary) and provision of adequate fiscal and program resources to improve literacy and consequently boost socioeconomic status. Such initiatives contribute to better maternal health

literacy and facilitates informed decision making (Kilfoyle, Vitko, O'Connor, & Bailey, 2016; Ogu et al., 2016). Similarly, healthcare providers and TBAs must be equipped to provide health education for women at all levels with an emphasis on their health, health decision making, and family planning - which are essential in making health reproductive goals and decision (Alabi, Odimegwu, De-Wet, & Akinyemi, 2019; Osamor, & Grady, 2018). Encouraging health promotion activities and (in-service) trainings or workshops to deliberate on cultural beliefs and implications on maternal mortality in order to tease out culturally appropriate solutions.

Fourth, poverty and/or patriarchal practices that perpetuate this disempowerment of women limits their decision-making autonomy and access and utilization of essential maternal health services (Lawani et al., 2016; Ogu et al., 2016) because of inability to pay out of pocket for health care services. Partnership with government and national and grassroots non-governmental organization (which operate closer to the community) for skill acquisition programs for all female students in secondary schools to promote female empowerment and contribute to a reduction in poverty and reduce spousal dependence for finance (Asaolu et al., 2018).

Review and analysis of government policies to determine how they impact and/or support maternal health outcomes and intersect to support or restrict women's and girl's education, the legal age of consent for marriage, and affordability of maternal health costs. Identifying policy bottle necks through research and consultative meetings between Nigerian researchers and policymakers is critical in making necessary informed changes to improve maternal health (Uneke et al., 2017a). As Uneke and colleagues (2017a, 2017b) contend, these interactions can also be used to apply evidence-informed policy as well as to help explore strategies needed to address key challenges that could hamper universal health care access such as improving the

capacity of policymakers or implementing a national maternal health insurance policy. For instance, statistical modeling studies can be used to demonstrate why basic maternal healthcare services should be free especially for women of child bearing age and children under 5 years.

Finally, one of the key roles of researchers is to make knowledge readily available for consumers. As suggested by Tricco et al., (2018), “early and active engagement of knowledge users in the research process helps establish research priorities and increase relevance of research findings”. In order to identify major concerns specific to each community, and set priorities for interventions, the researcher recommends involving knowledge users in Nigeria (e.g., nurses within the Nurses and Midwifery Council, and Nigerian Nurses Association in North America, community or religious leaders, policy makers, government and national and grassroots non-government organizations) in advancing research related to maternal mortality and cultural implications. Engaging knowledge users in designing and planning interventions targeted towards reducing maternal mortality may foster cooperation and likely increase adherence to recommended approaches or practices. In support of the aforementioned, the “codesign and co-development of research with knowledge users helps inform public policy and increases research utilization” (Tricco et al., 2018).

5.6 Limitations

This scoping review study is not without its limitations. One major limitation is that the select sociocultural factors/practices may not fully represent the diverse ethnocultural context. Nigeria is a populous country with diverse cultural practices; therefore, it is not beneficial to generalize cultural impacts out of context. The broad and comprehensive nature of the topic and a limited nursing body of knowledge on this topic made the screening for included articles time consuming and the analysis and synthesis of the results more complex. Due to the diverse sociocultural practices in Nigeria, findings from this scoping review study may not be

generalized out of context to other non-western countries though similar cultural practices may exist (Dennis et al., 2007).

Second, considering the cultural context and focus of the study, and that most of the articles emphasized the negative impact of sociocultural practices on increasing maternal mortality risk versus positive/neutral practices, compounded the application of the PEN-3 model, thus, revealing a gap in literature on sociocultural practices that promote maternal health. Due to manual selection and screening of articles, some components may have been exempted due to subjective understanding of sociocultural practices and maternal mortality. As a result, articles with limited information on sociocultural practices were eliminated. Third, some of the primary research included in this scoping review did not include or discuss sample size, study population, and research tool, so individual studies used in this review may not be generalizable due to some of these shortcomings.

Other limitations also include concerns that articles were not a true representation of all the geopolitical zones (none from North East) in Nigeria which means the study may not be inclusive of all cultural practices that impact maternal mortality in Nigeria. In addition, articles published in English were only included in the search; and none of the studies involved in this scoping review explored sociocultural interventions mitigating maternal mortality. Also, classification of the sociocultural practices as either positive, neutral, or existential using the PEN-3 model was constrained by the limited available literature on positive and neutral sociocultural practices. It is essential to explore sociocultural practices with positive and existential impacts on maternal mortality in order to be able to conduct community-based participatory intervention studies that would be deemed culturally acceptable by community members.

Given these limitations, future research should address male involvement/perception of sociocultural practices. There is a need to engage women primarily on their perceptions of cultural practices and to help to them minimize health risks they are exposed to due to sociocultural practices. Future research may also focus on exploring other cultural practices not currently reported in literature especially those that impact maternal mortality as seen that a gap exists in literature about existential sociocultural practices.

5.7 Knowledge Translation

Knowledge translation (KT) is a critical part of every research process because it helps bridge the gap between research and knowledge users (i.e. the “know-do” gap) (Grimshaw, 2010). Knowledge translation is defined as a “dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the healthcare system” (p 1) (Grimshaw, 2010). During knowledge translation, knowledge is synthesized, disseminated, exchanged, and ethically applied in order to facilitate uptake of research which further improves health (Tricco et al., 2016a) in Nigeria and developing nations with similar issues. This scoping review will be submitted for publication in a reputable peer-reviewed journal. The researcher intends to present the study findings at a conference to highlight the sociocultural practices that influence maternal mortality in Nigeria. The findings of this research study are also recorded in this, potentially serving as a resource and for future research.

Apart from disseminating the research findings through conference presentation or in published journals, active engagement of stakeholders or knowledge users is essential for effective and successful KT (Tricco et al., 2016b; Tricco et al., 2018). Web-based education sessions, community engagement sessions, and dissemination activities with inter-

professional/inter-agency/diverse organizations in Nigeria will also be organized to increase awareness of the impact of sociocultural practices. Additionally, the researcher will also employ her current membership in the Nursing and Midwifery Council of Nigeria and visiting scholar to present in forums such as the annual congress and educational site visits to connect with key networks such as midwifery training schools to advance the findings of this study. A brief summary of the findings will be sent to policy makers, policy analysts, or decision makers to reinforce the education sessions and seminars. As noted in the JBI manual, although scoping reviews cannot directly inform policy, the evidence mapped can provide insight into policy reform and serve as foundation for future studies that engage stakeholders and knowledge users.

Chapter 6 Conclusion

In Nigeria, maternal mortality is one of the major public health challenges and a national epidemic. Several research studies exist on biomedical causes of maternal mortality and diverse initiatives/strategies have been used to inform interventions implemented to tackle this epidemic state, yet progress is minimal in achieving a reduction in the maternal mortality. Considering an especially high and increasing population in Nigeria and resource limitations, an in-depth understanding of non-medical factors that contribute to increasing or reducing maternal mortality is needed. The continued increase in maternal mortality is at least in part attributable to sociocultural practices/factors that exist in Nigeria. This study focused on the influence of sociocultural practices/factors on maternal mortality in order to provide insight on culturally sensitive approaches to reducing maternal mortality and the intervention targets. Using the JBI methodological framework for a scoping review (as discussed in Chapter 3), the aim of the study was to explore impacts of select sociocultural practices in Nigeria identifying the positive, neutral, and negative dimensions using the PEN-3 model.

In keeping with the JBI manual and Arksey and O'Malley's (2005) methodological framework, this review involved a thorough and transparent process that started with drafting of the apriori protocol. The literature searches completed in this scoping review were comprehensive and iterative in nature; generating 882 citations with 35 studies included in the final review. Data were extracted and the PEN-3 cultural model was used as a tool for analysis. Findings from this scoping review will contribute to the growing nursing/public health body of evidence and provide insight on culturally appropriate interventions that may effectively contribute to reducing maternal mortality in Nigeria. To the researcher's knowledge, this is the first scoping review study on maternal mortality that utilized the PEN-3 cultural model.

Exploring the impacts of select sociocultural practices/factors on maternal mortality

reveal the impacts of culture on health outcomes. Cultural beliefs and attitudes influence health, decision-making, health-seeking behaviour, health promotion, disease prevention, and/or behaviour change. The PEN-3 model used to guide this study emphasizes the importance of addressing health issues through a cultural lens and ensuring assessment, development, implementation, and evaluation of health interventions are culturally situated (Airhihenbuwa, n.d.; Iwelunmor et al., 2014). The positive, neutral, and negative impacts of culture must be explored in order to promote the sustainability and effectiveness of strategies/initiatives essential to reduce the maternal mortality burden in Nigeria. Findings from the study showed that the interrelationship between social factors and cultural practices influence women's health-seeking behaviour, engagement in health promotion or disease prevention activities, and/or maternal mortality. These select sociocultural practices/factors also show how these issues relate to the social determinants of health which are major influencers of health outcomes.

This scoping review contributes to the knowledge base for future research and the growing body of evidence on the impacts of sociocultural practices on maternal mortality, highlighting the positive, neutral, and negative variations essential for developing acceptable and successful interventions. The PEN-3 model adds a culturally rich perspective and encourages cultural competence when addressing diverse ethnic beliefs and practices and their impact on health. The unacceptably high maternal mortality rate in Nigeria suggests the need to implement culturally appropriate interventions and strategies if the SDG are to be achieved by 2030. Achieving SDG goals 1 to 5 (i.e., ending poverty and hunger, promoting health and wellbeing, good education, and equalizing gender opportunities by eliminating FGM and marrying girls before they are empowered) as accentuated by the United Nations (n.d.) may result in reduction of maternal mortality in Nigeria. In order to achieve these SDG goals, there is need for

intersectoral collaboration among different sectors including private and governmental organizations to foster effort towards maternal mortality reduction.

There are implications for policy makers, nurses, other healthcare professionals, and government and non-governmental organizations. Policy makers need to be culturally aware and have a good understanding of diverse cultures before developing policies that conflict or attack women's cultural beliefs. The increased awareness of policy makers about culturally competent care may also help when evaluating existing strategies and/or policies. Findings from the study showed that religious leaders and TBAs have great influence on women regarding choice of where, and when to utilize maternal health services; hence, they are resourceful in communicating and/or approaching women. TBAs may also facilitate timely referral of pregnant women to the hospital when they are recognized as community caregivers (not HCPs' competitors). Education is a major contributor to maternal mortality; therefore, it is essential for the federal government to make access to free primary and secondary education and educational resources available especially in impoverished areas (rural and northern region) where lack of education was reported to contribute significantly to maternal mortality. Future research must examine the impact of sociocultural practices on maternal mortality from genderized perspectives. Some pilot study on community-based interventions research may also be considered to evaluate their effectiveness in reducing maternal mortality.

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Appendix A Geographic Regions of Nigeria

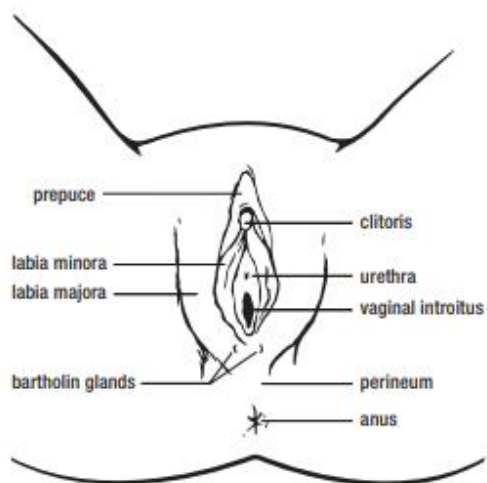
Figure A-1: Map of Nigeria showing the Northern and Southern regions

NIGERIA

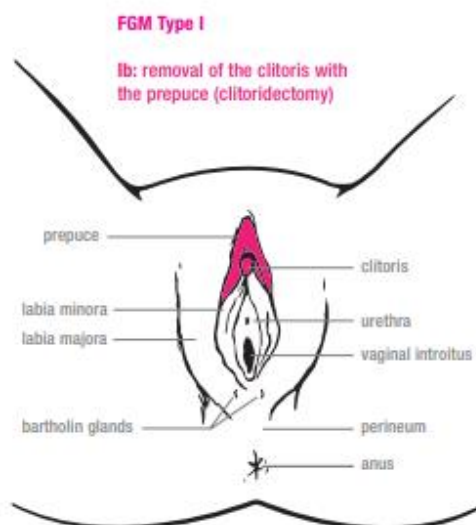
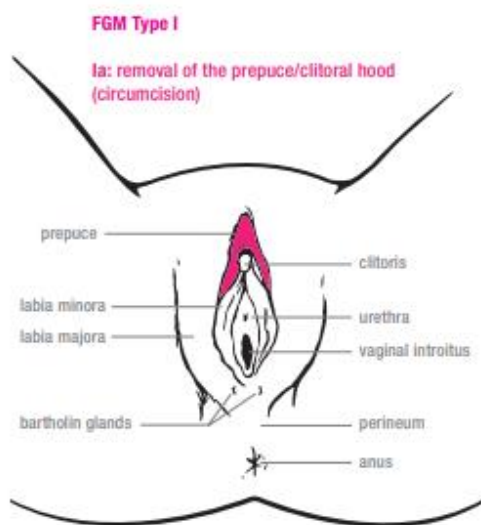


Source: Nigeria Demographic Health Survey, 2013.

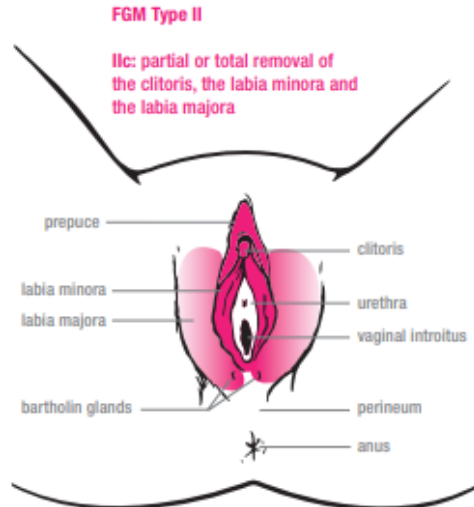
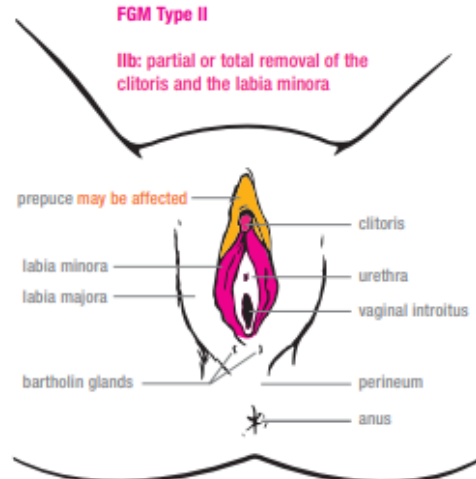
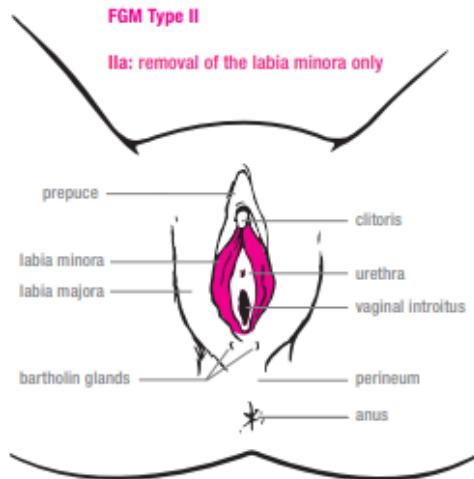
Appendix B Types of FGM



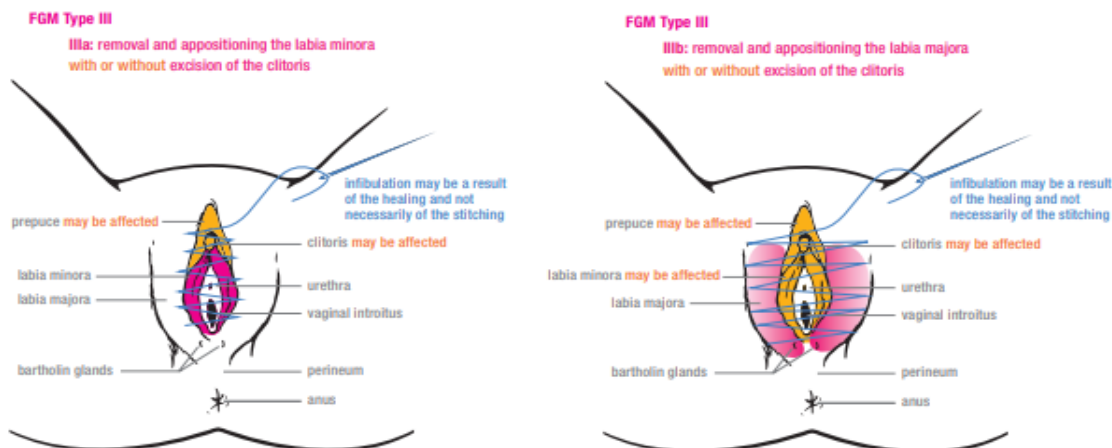
Type I Partial or total removal of the clitoris (clitoridectomy) and/or the prepuce



Type II Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision)



Type III Narrowing of the vaginal orifice with the creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation)



Re-infibulation The procedure to narrow the vaginal opening in a woman after she has been deinfibulated (i.e. after childbirth); also known as re-suturing

Type IV All other harmful procedures to the female genitalia for non-medical purposes, for example: pricking, pulling, piercing, incising, scraping and cauterization

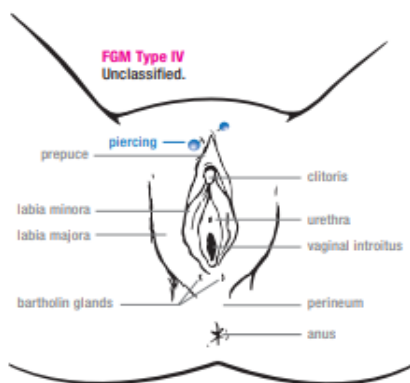


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Appendix C Apriori Protocol

Topic: Impact of select sociocultural practices on maternal mortality: A scoping review OR

Sociocultural practices as a contributing factor to maternal mortality: A scoping review

Objective: To explore the impact of sociocultural practices reported to influence maternal mortality.

Research Question: What sociocultural practices have been reported to impact maternal mortality in Nigeria?

Sub-Questions: What are the positive impacts of sociocultural practices on maternal mortality in Nigeria? What are the negative impacts of sociocultural practices on maternal mortality in Nigeria?

Background: Maternal mortality is a major challenge in the public health domain that the United Nations decided to solve by adopting different initiatives aimed at reducing the global burden by 75% in 2015 (United Nations Children's Fund [UNICEF], 2017; World Health Organization [WHO], 2015a). Despite global efforts to combat maternal mortality, the mortality rate in developing countries especially Sub-Saharan African countries remains unacceptably high, accounting for about 66% of global burden yearly (UNICEF, 2017; WHO, 2015a).

Nigeria, one of the most populated African countries is ranked fourth highest in the world for maternal mortality rate (African Population and Health Research Center [APHRC] 2017; Index mundi, 2018; WHO, 2015a). In other words, maternal mortality rate in Nigeria was about 814 deaths in 100,000 compared with 7 and 14 deaths in 100,000 live births in Canada and United States respectively (Index mundi, 2018; WHO, 2015b). This high incidence of maternal mortality in Nigeria points to health inequality both within Nigeria and globally.

Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or

aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2018). There are biomedical causes of maternal mortality (often identified as the major causes of maternal mortality) (UNICEF, 2017; WHO, 2015a; APHRC, 2017), nonbiomedical causes also exist, though they often downplayed. The nonbiomedical causes increases the risk of maternal mortality especially in developing countries (i.e., Nigeria) (Azuh, Azuh, Iweala, Adeloye, Akanbi, & Mordi, 2017). Some of these nonbiomedical factors include sociocultural factors, logistics, economic factors, political factors, and health care system (Azuh et. al. 2017; Marchie, 2012).

Humans are not only biological being, but also social and cultural being, therefore, they are inseparable from their social and cultural identity. The social and cultural nature of humans interrelate to influence health, health beliefs & practices, health seeking behavior, and decision making. In order to achieve a reduction in maternal mortality rate, the sociocultural factors/practices should not be overlooked. Examples of sociocultural factors identified in the literature include male dominance, food restrictions and taboos in pregnancy, female genital mutilation, early child marriage, high parity, religion, education, poverty, gender discrimination or inequality, patriarchal societal value (male dominance and women's subjugation), family traditions and rituals, social exclusion, and preference for male child and large family size (Azuh et al., 2017; Chukuezi, 2010; Marchie, 2012; Odekunle, 2016; Ogu, Agholor, & Okonofua, 2016).

The PEN-3 cultural model listed three major impacts of culture on health as positive, existential (neutral), and negative (Iwelunmor, Newsome, & Airhihenbuwa, 2014). As opposed to popular misconception that culture only impacts health negatively, Iwelunmor and colleagues further explained that the positive influences can be strengthened, the neutral influences

acknowledged while the negative influences can be modified to improve health outcomes (i.e. reduce maternal mortality). The PEN-3 model reveals that both the positive and negative impact of the sociocultural practices that influence maternal mortality reported in the literature should be explored. To date, no scoping review has been conducted on the impact of sociocultural factors on maternal mortality, thus the need for the study.

Search Database: The electronic database that will be searched include are Medline, CINAHL, Embase, Scopus, Pubmed, PscyINFO, Web of Science, and google Scholar.

Maternal morbidity, safe motherhood, postpartum, antenatal, pregnancy outcome, obstetrics birth, maternal health services, and maternal health outcome were included in the subject term used for searches from the data base. Articles retrieved are still under review.

Based on my review thus far, including maternal morbidity means information on vesicovaginal fistula, rectovaginal fistula, and other complications from pregnancy outcome would be retrieved and included. This might be beyond the scope of the study. Though, a report by WHO on maternal morbidity states the true burden of maternal morbidity is not known, and that “For every woman who dies of pregnancy-related causes, 20 or 30 others experience acute or chronic morbidity, often with permanent sequelae that undermine their normal functioning” (WHO, 2018).

Also, some articles retrieved on maternal health services focused on accessibility and utilization of maternal health services, factors determining the place of delivery, and the three forms of delay. Some of the sociocultural practices highlighted in literature applies to morbidity, mortality, and maternal health services.

Keywords/subject terms: (“sociocultural practice*” OR “social norm” OR “social value*” OR “cultural practice*” OR “cultural norm” OR “cultural value*” OR “family tradition*” OR

traditional belief* OR traditional practice*) AND (“safe motherhood”) OR (“antenatal” OR “pregnancy” OR “pregnancy outcome” OR “obstetrics birth” OR “delivery” OR “postpartum”) AND (“maternal morbidity” OR “maternal mortality” OR “maternal death” OR “maternal health outcomes” OR “maternal health services”).

Types of studies to be included: Qualitative studies, Quantitative studies, Mixed method studies, Government reports (e.g., World Health Organization, Ministry of Health, United Nations Children’s Fund, United Nations Population Fund, Public Health Agency, Nigerian Demographic and Health Survey), Theses.

Grey literature will be used during the write ups when making reference to statistical values, demographics, or government strategies, policies or reports on maternal mortality.

Also, references of identified articles and abstracts will be screened, and relevant studies will be included.

Condition or domain being studied: Sociocultural practices and maternal mortality.

Inclusion criteria: Articles that focused on adolescents and women of child bearing age (13-49years); published in English; addresses sociocultural practices and maternal mortality; peer reviewed articles, reports, and theses; study carried out in Nigeria; published between 2000 and 2018.

Exclusion criteria: Articles focused on males and published in languages other than English. Articles published before 2000.

Review Management: All the articles will be retrieved and exported to Zotero and Endnote for reference management. The duplicates will be removed and the relevant articles that meet inclusion criteria will be filed. The PRISMA flow diagram will show how the articles are reviewed.

Data Extraction: A descriptive summary of the relevant literature and abstracts on the impact of sociocultural practices on maternal mortality will be provided and a table showing relevant information will be developed.

Below is an example of a table format that would be used for articles retrieved

S/N	Author	Title/ Source	Subject term/ keywords	Objectives	Tools/ Design	Study population/ Sample size	Methodology	Key Finding s	Personal Reflections
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Dissemination plans: The scoping review will be submitted as a thesis, presented in conferences, and published in some African journals

Other questions: Some of subject terms below were included in my search. When I did not include these, I got some articles that are not relevant to the topic. When I included them, I got some articles that specifically addressed some of these subjects. Would you advise whether or not to include it as a subject term in my literature search?

Sociocultural factors identified during preliminary literature search might also be included as subjects or keywords when searching for articles in the databases. For example, “poverty” OR “education” OR “early marriage” OR “child marriage” OR “religious beliefs” OR “gender inequality” OR “food taboo” OR “food restriction*” OR “food preference*” OR “childbirth practice*” OR “education”) AND (“pregnancy” OR “delivery” OR “maternal mortality” OR “maternal death”).

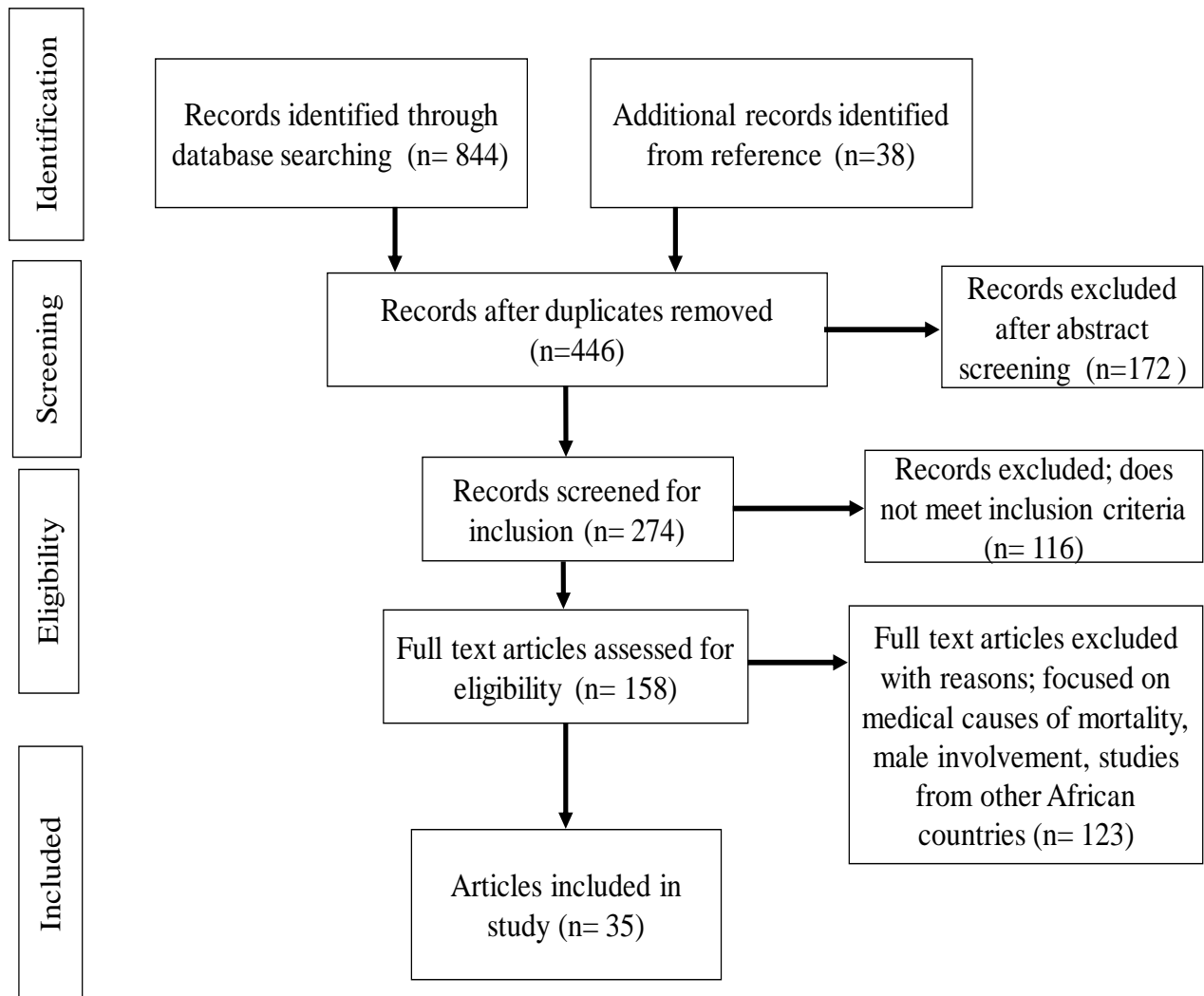
Dissemination plans: The scoping review will be submitted as a thesis, presented in conferences, and published in some African journals

Anticipated or Actual Start Date: March 2018

Anticipated date of completion: December 2018

Appendix D PRISMA Flow Diagram

PRISMA flow diagram for scoping review



Appendix E Data Summary

Table E-1: Data summary table

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
1.	Adeusi et al. (2014)	Predictors of maternal health as perceived by pregnant women of Eti-Osa, Lagos state, Nigeria.	Predictors, Maternal health, Cultural Practices, Education, Pregnant women.	To explore the predictors of maternal health as perceived by pregnant women.	Cross-sectional field survey.	Structured questionnaire	Stratified and simple sampling. N = 100 participants	Factors that influence maternal health, health care seeking behaviour, and birth outcome include: a. Lack of proper support system (e.g., poor emotional and financial support from spouse) b. Religious influences (faith ideologies about supernatural childbirth) c. Psychosocial and cultural beliefs about pregnancy and birth d. Poor women empowerment and male control e. In-law pressure to seek healthcare from traditional care givers
2.	Airede, and Ekele (2003)	Adolescent maternal mortality in Sokoto, Nigeria.	Not reported	To determine the magnitude of the problem of adolescent maternal death at UDUTH, Sokoto, the associated	Quantitative; retrospective cross-sectional study	Secondary analysis; patient's information retrieved from case notes	Not reported	Sociocultural practices that increase adolescent mortality risk are as follows: a. Early marriage b. Lack of a good social support system c. Poor educational attainment d. Financial dependence

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
				factors, and recommended strategies for their prevention.				e. Lack of decision-making power.
3.	Ajiboye, and Adebayo (2012)	Socio-cultural factors affecting pregnancy outcome among the Ogu speaking people of Badagry area of Lagos state, Nigeria.	Socio-cultural, pregnancy, reproductive health, antenatal, traditional birth attendant, maternal mortality.	To examine the communal and personal values, perception, beliefs, and practices as it affects pregnancy outcome among the Ogu people of Badagry, Lagos state, Nigeria.	Mixed methods; exploratory study	Quantitative: Structured questionnaire. Qualitative: In- depth interview using unstructured questionnaire.	Multistage sampling technique N = 124 participants n = 120 completed quantitative survey n = 4 critical informant interviews	Sociocultural practices that contribute to maternal mortality risk include: a. Perception of causes of complications in pregnancy/birth b. Preference for a large family c. poverty d. Dependence of men in decision making e. Poor knowledge of modern health facility
4.	Amodu, Salami, and Richter (2017)	Obstetric fistula and sociocultural practices in Hausa community of Northern	Birth attendance, culture, obstetric fistula, vesicovaginal fistula,	To discuss the sociocultural practices that influence the incidence of obstetric fistula among	Literature review; narrative discuss	Number of review articles not specified	Hausa women in Northern Nigeria.	Common sociocultural practices/beliefs among Hausa women that increase maternal mortality include: a. Early marriage/childbearing – body is physiologically and psychologically immature. b. Religious practices such as purdah

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		Nigeria.	Nigeria,	women in northern Nigeria.				<p>(women's seclusion from public space and male control).</p> <p>c. Traditional birthing practices or beliefs e.g., labour is not considered prolonged until after 4 days; preference for home birth; expression of pain during childbirth as a taboo and practice of modesty during childbirth (Kunya).</p> <p>d. Female circumcision or gishiri cutting which increases susceptibility to infection and hemorrhage.</p> <p>e. Limited women's autonomy - complete dependence on partner for decision making and financial support.</p> <p>f. Illiteracy and low socioeconomic status (SES).</p>
5.	Ariyo, Ozodiegwu, and Doctor (2017)	The influence of social and cultural environment on maternal mortality in Nigeria: Evidence from 2013 demographic and health survey.	Not reported	To investigate the association between social and cultural factors and maternal mortality	Quantitative method, retrospective analysis	Questionnaires (direct sisterhood method based on sibling history)	N = 38,948 interviews	<p>Common sociocultural practices identified in the study include:</p> <p>a. Lack of education/illiteracy</p> <p>b. Poverty</p> <p>c. Early child marriage</p> <p>d. Religious practices such as purdah (women seclusion).</p> <p>e. women's limited autonomy and complete reliance on spouse for decision</p>

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
								making and financial support.
6.	Asowa-Omorodion (1997)	Women's perceptions of the complication of pregnancy and childbirth in two Esan communities, Edo state, Nigeria.	Childbirth, complications, women's views, maternal mortality, childbearing, pregnancy, Nigeria.	To obtain in-depth understanding of perception of complications in pregnancy, timing of problem identification, and rank in seriousness to complications and treatment option employed.	Qualitative study	Focus group discussion and interviews	Not reported	Sociocultural factors that influence maternal mortality are as follows: <ul style="list-style-type: none"> a. Preference for large family leading to high parity b. Use of herbal remedies of unknown effects c. Women's dependence on partner for healthcare decision making d. Poverty /financial constraints e. Poor attitudes and behaviour of modern healthcare providers (e.g., negligence, unfriendliness, poor communication)
7.	Azuh et al. (2017)	Factors influencing maternal mortality among rural communities in Southwestern Nigeria.	Maternal mortality, healthcare, non-medical factors, informant approach, community.	To determine the nonmedical factors that influence maternal mortality	Quantitative; informant approach survey	Interview using structured questionnaires and focus group discussion	Multistage design N = 360 respondents from 11 wards	Sociocultural practices identified include: <ul style="list-style-type: none"> a. Preference for a large family b. Illiteracy c. Financial dependence on partners for hospital bills d. Traditional family role (patriarchal family structure) e. Poor perception of modern healthcare services

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
8.	Azuh, Fayomi, and Ajayi (2015)	Socio-cultural factors of gender roles in women's healthcare utilization in Southwest, Nigeria.	Healthcare, Utilization, Culture, Gender, Maternal health	To examine gender- related socio- cultural factors that retard maternal access to and use of health care services during pregnancy and childbirth.	Quantitative study.	Structured questionnaire	Simple random sampling. N = 260 women	Sociocultural practices identified include: a. Gender disparity with regards to marriage, education, and employment. b. Lack of education c. Dependence on male partner to make health decision d. In-laws' strong influence on health seeking practices e. Poverty which influenced women's utilization of healthcare services
9.	Chiwuzie et al. (1995)	Causes of maternal mortality in a semi-urban Nigerian setting.	Not reported	To reduce maternal mortality caused by hemorrhage.	Qualitative method	Focus group discussions	Not reported	The community/sociocultural factors influencing maternal mortality include: a. Poor or inadequate knowledge about the causes of complication at birth and traditional beliefs b. Food restrictions c. Poor referral policies
10.	Chukuezi (2010)	Socio-cultural factors associated with maternal mortality in Nigeria.	Mortality, sociocultural, maternal, factors, Nigeria.	To discuss the sociocultural factors associated with maternal death in rural	Literature review	Demographic surveys, health reports, government policy documents, and field	Not specified	Sociocultural practices contributing to maternal mortality include: a. Gender disparity and discrimination b. Poor social support or involvement c. Family preference for a male child or

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
				Nigeria, and suggest ways of improving and eliminating the factors.		interview.		<p>large family which leads to female child labour</p> <p>d. Food restrictions and child marriage</p> <p>e. Female genital mutilation</p> <p>f. Male dominance and patriarchal culture</p> <p>g. Religious practice (like purdah) or believe in supernatural intervention even in the face of impending death.</p>
12.	Ekanem et al. (2004)	Postpartum practices among women in Calabar, Nigeria	Not reported	To identify postpartum practices of women in Calabar and plan intervention to eradicate the harmful practices	Quantitative study	Interview method	N = 300 participants enrolled	<p>Common postpartum practices that impact maternal mortality include:</p> <p>a. Early resumption of coitus</p> <p>b. Sitz bath to aid perineal wound healing and improve vaginal tone</p> <p>c. Abdominal hot compress to aid lochia drainage and involution of the uterus</p> <p>d. Consumption of locally made alcoholic beverage to induce lactation and aid lochia drainage</p> <p>e. Nursing in steam room to prevent exposure to cold and reduce vulnerability to illnesses</p> <p>f. Consumption of nourishing and spicy foods to stimulate lactation, aid lochia</p>

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
								drainage, and facilitate recovery from postpartum anemia.
13.	Evans (2013)	A review of cultural influence on maternal mortality in the developing world.	Culture, maternal mortality, childbirth	To identify research examining the effect of culture on maternal mortality rates.	Literature review	Database searched include CINAHL, PsychINFO, OVID Medline, and Web of Science.	N = 17 articles were included in the final review.	Sociocultural factors that increase maternal mortality risk include: <ul style="list-style-type: none"> a. Early marriage/childbearing b. Gruel consumption and roasting on hot coal during the postpartum period. c. Harmful birth practices e.g., applying fundal pressure, and inducing emesis to expel the placenta. d. Food restrictions e. Gishiri cutting f. Myths and Misconceptions about pregnancy/birth complications g. Limited women's autonomy and gender discrimination.
14.	Esienumoh , Akpabio, and Etowa (2016)	Cultural diversity in childbirth practices of a rural community in Southern Nigeria.	Culture, diversity, cultural-sensitivity, childbirth cultures, midwives culture, midwifery.	To understand the cultural beliefs and practices surrounding childbirth in a rural community in Southern	Qualitative; ethnographic participatory action design	In-depth interview, Focus group discussion, and Observation.	Purposive and snowball sampling was used to recruit participants. N = not specified	Sociocultural practices identified include: <ul style="list-style-type: none"> a. Early marriage –high-risk pregnancies which increases risk of maternal mortality. b. Food taboos during pregnancy e.g., protein and non-protein food restrictions increase pregnant women's susceptibility to anemia

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
				Nigeria.				<ul style="list-style-type: none"> c. Women's subjugation and limited ability to make decisions without partner's approval d. Traditional beliefs/medicine e.g., TBAs are believed to be competent in managing complications than healthcare personnel. e. Religious beliefs about supernatural birth causing aversion for caesarean section.
15.	Ezeama and Ezeamah (2014)	Attitude and socio-cultural practices during pregnancy among women in Akinyele Local Government Area of Oyo State, Nigeria	Attitudes, Socio-cultural, Practice, Pregnancy	To assess attitudes and socio-cultural practices that negatively affect women during pregnancy and childbirth	Mixed methods	Focus group discussion and structured questionnaires	Random sampling method. N = 405 women recruited for the study	<p>Common socio-cultural practices reported by these women include:</p> <ul style="list-style-type: none"> a. Pregnancy beliefs – early disclosure of pregnancy leads to harm or miscarriage. b. Food restrictions – consumption of some proteins and vegetables are believed to have negative effects on both the mother and her baby.
16.	Idowu (2013)	The socio-cultural context of maternal health in Lagos state, Nigeria.	Socio-cultural, Maternal health, Complications, Lagos.	To examine the socio-cultural context surrounding pregnancy and childbirth and how this	Mixed method; PhD thesis	Questionnaires , key informant interview, In-depth interview, and case studies.	Multistage sampling technique N = 1362 women between ages 15- 49 years	<p>Common sociocultural practices that complicate pregnancy or birth and increase maternal mortality risk include:</p> <ul style="list-style-type: none"> a. Health illiteracy - inadequate knowledge about some symptoms in pregnancy

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
				context precipitates maternal morbidity and mortality			recruited using	b. Limited autonomy to make health decision and poor social support (especially from male partner) c. Food restrictions d. Harmful birth practices e.g., use of herbal concoctions to manage complication
17.	Igberase et al. (2009)	Awareness and perception of maternal mortality among women in a semi-urban community in the Niger-Delta of Nigeria.	Awareness, maternal mortality, perception, semi-urban women	To determine the awareness and perception of maternal mortality among women in Ogunu town of Delta state, Nigeria.	Descriptive cross-sectional design	Semi-structured questionnaires	Random sampling technique N = 400 women	Perception about causes of complication in pregnancy increasing the risk of maternal mortality in the Niger-Delta include: a. Poverty b. Use of traditional obstetrics care and late referral for those with complications
18.	Iliyasu et al. (2006)	Postpartum beliefs and practices in Danbare village, Northern Nigeria	Not reported	To assess contemporary postpartum beliefs, practices, and health problems of mothers in a typical Hausa rural	Quantitative method; cross-sectional study	Structured questionnaires	Multistage sampling technique N = 300 women	Common postpartum practices that impact maternal mortality include: a. Confinement for the first 6 weeks after birth to regain stamina b. Abstinence from sexual intercourse c. Hot ritual bath (sitz bath) to aid healing of perineal wound and lochia drainage

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
				community				<ul style="list-style-type: none"> d. Nursing in heated rooms to prevent illnesses caused by cold e. Laying on heated beds to chase prevent cold f. Consumption of pap enriched with gruel (kunun kanwa) to increase mother's strength and flow of breast milk g. Consumption of nourishing and spicy foods to stimulate lactation and recover from anemia
19.	Lang-Balde and Amerson (2018)	Culture and birth outcome in sub-Sahara Africa: A literature review.	Culture, tradition, cultural beliefs and practices, pregnancy, birth, birth or pregnancy outcomes, customs, childbirth, Sub-Saharan Africa.	To provide an overview of peer-reviewed research on how cultural values, beliefs, and lifeways affect birth outcomes from women's perspectives in sub-Saharan Africa	Literature review.	Review of literature. Database include: CINAHL Plus, Anthropology Plus, Women's Studies International, Academic Search Premier, Family Studies Abstracts, Health Source: Nursing/Academic Edition, MEDLINE,	<p>Social determinants of health (SDH) that influence cultural beliefs and values in women.</p> <p>N = 25 articles representing 13 countries; 21 qualitative articles, 4 mixed methods.</p>	<p>Common sociocultural practices specific to Nigeria include:</p> <ul style="list-style-type: none"> a. Family preference for male children and large family. b. Beliefs that pregnancy should not be disclosed until after 3 months to protect from evil spirit. c. Perceptions about causes of pregnancy/birth complications e.g., edema suggests male child, prolonged labour is a result of violation traditional rules and/or infidelity. d. Myths and misconception about labour e.g., women can control the method of delivery; birth without assistance or

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
						SAGE Journals, Sociological Index with full text, JSTOR, Web of Science, and Sabinet.		medical intervention is honorable, and a symbol of womanhood.
20.	Lawani, et al. (2016)	Obstetric morbidity and sociocultural predictors of ruptured uterus among women in Southeast, Nigeria.	Maternal mortality, Obstetric morbidity, Perinatal mortality, Ruptured uterus, Sociocultural predictors, Nigeria.	To determine the incidence and association with maternal and perinatal morbidity and mortality using an individual/ community- based enquiry to assess sociocultural contributors	Qualitative; descriptive study	Interviews using questionnaires	N = 120 respondents	Sociocultural predictors that increase maternal mortality are: a. Lack of education and health literacy b. Lack of women empowerment and financial constraints. c. Religious beliefs d. Harmful traditional practices e. Poorly functioning health care system.
21.	Marchie, (2012).	Socio-cultural factors as correlates of maternal mortality in Edo Senatorial District,	Sociocultural, maternal mortality, Edo senatorial district, Edo state, Nigeria	To examine the extent to which socio- cultural factors affect among others the maternal	Descriptive survey method	Interviews using structured questionnaires, Focus group discussion	Multistage random sampling N = 2157 females of reproductive	Common sociocultural practices that increase maternal mortality risk include: a. Illiteracy b. Early/child marriage or early childbearing

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		Nigeria.		mortality in the Southern part of Edo State.			age	c. Women disempowerment and limited women's autonomy d. Female genital mutilation e. Poverty also increases the risk of maternal mortality.
22.	Marchie, and Anyanwu (2009)	Relative contributions of socio- cultural variables to the predictions of maternal mortality in Edo South senatorial district, Nigeria.	Sociocultural, maternal mortality, Edo senatorial district, Edo state, Nigeria	What is the relative contribution of specific sociocultural variables to maternal mortality in Edo South senatorial district?	Descriptive survey method.	Questionnaires , In-depth interviews, and Focus group discussion	Multistage sampling Simple random for local government selection; proportional random sampling for ward selection; and convenience sampling for participant selection N = 2157 females aged 15 – 49 years	Sociocultural factors that increase maternal mortality risk are: a. Early marriage and early childbearing b. Preference for many children to amass wealth, c. Poor educational attainment d. Women's poor decision-making power e. Female genital mutilation f. Poverty g. Preference for traditional obstetric care services h. Inadequate access to health care services
23.	Nwokocha (2007)	Male-child syndrome and the agony of	Not reported	To examine the links between	Qualitative method	Focus group discussion, in- depth	Multi-stage sampling N = 40	Common practices that increase maternal mortality risk include: a. Preference for a male child due to

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		motherhood among the Igbo of Nigeria.		patriline and patriarchy and male child preference at family and household levels		interview, and obtrusive observation.	families	identity and recognition b. Ceremonial legacy celebration to honour women who have had over ten pregnancies c. Preference for a large family due to the belief that it guarantees social security at old age
24.	Odekunle and Odekule (2017)	Gender: The cross-cutting issue in maternal mortality.	Gender, Patriarchal practices, Gender roles, Maternal mortality, Africa, Nigeria, Maternal death, Gender inequality.	To examine how gender inequality and patriarchy plays out in maternal mortality	Literature review	Google scholar database and organization websites.	Nigeria; N = 16 articles	Sociocultural factors that increase the risk of maternal mortality include: a. Gender inequality – male control and relegation of female roles to reproductive functions. b. Poor education and economic empowerment – employment and career opportunities c. Women have limited autonomy in decision making. d. Family preference for a male child.
25.	Odekunle (2016)	Maternal mortality burden: The influence of socio-cultural factors.	Maternal mortality, Nigeria, Socio-cultural factors, Africa, Cultural practices/beliefs, Maternal	To examine whether and how socio-cultural factors affect maternal mortality in Nigeria.	Literature review	Literature search of Scopus, Proquest, google scholar, and websites of organization.	N = 62 studies; 44 quantitative, 14 qualitative, and 4 mixed methods	Sociocultural practices highlight include: a. Religious practice of purdah b. Early marriage/childbearing c. Beliefs about the causes of pregnancy complications. For example, obstructed labour is caused by

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
			death.					<p>infidelity</p> <p>d. Family preference for large family which leads to high parity, a known risk for maternal mortality.</p> <p>e. Nutritional taboos – restrictions on certain foods during pregnancy increases susceptibility to anemia, infection due to poor immunity, and haemorrhage.</p> <p>f. Lack of female child education</p> <p>g. Use of traditional birth attendants.</p>
26.	Ogu, Agholor, and Okonofua (2016)	Engendering the attainment of the SDG-3 in Africa: Overcoming the sociocultural factors contributing to maternal mortality.	Maternal mortality, preventable maternal death, SDG, cultural factors, respectful maternal care, & Nigeria.	To discuss the sociocultural influences that contribute to the high rate of high maternal mortality in Nigeria.	Literature review	Not reported	Not reported	<p>Sociocultural factors contributing to maternal mortality include:</p> <p>a. Poor education/illiteracy</p> <p>b. Gender disparity and inequalities</p> <p>c. Food restrictions</p> <p>d. Religious practices (purdah/women's seclusion) and beliefs in pregnancy about supernatural birth.</p> <p>e. Poverty resulting in child labour child labour</p> <p>f. Women disempowerment</p> <p>g. Beliefs about modern healthcare and</p>

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
								preference TBAs
27.	Okafor (2000)	Folklore linked to pregnancy and birth in Nigeria.	Not reported	To identify and address some of the underlying cultural factors in maternal morbidity and mortality in Nigeria	Community action participatory research	Not reported	Not reported	Common practices that increase/reduce the risk of maternal mortality include: a. Use of TBAs to provide antenatal care during pregnancy b. use of herbal remedies that may have unknown effects c. Poor perception about causes of complications d. Food restrictions e. Postpartum practices like rooming in and feeds practiced positively impact women.
28.	Okafor and Rizzuto (1994)	Women's and healthcare providers' views of maternal practices and services in rural Nigeria	Not reported	To improve community based maternity services	Qualitative method; community participatory action research	Focus group discussions	N = 1600 participants from 4 states (Akwa-Ibom, Enugu, Rivers, and Benue).	Sociocultural practices influencing maternal mortality include: a. Poverty b. Misconception about diagnosis of pregnancy and complications during pregnancy. c. Food restrictions and taboos d. Preference for TBAs e. Religious ideologies f. Beliefs about pregnancy and birth

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
								<p>complications</p> <p>g. Postpartum practices like consumption of spicy foods to aid lactation</p> <p>h. Poor referral services</p> <p>i. Consumption of alcohol/caffeine</p>
29.	Okeke et al. (2013)	Postpartum practices of parturient women in Enugu, South East Nigeria	Africa, postpartum period, postpartum practices, puerperal period, South East Nigeria, Women	To describe postpartum practices of women in Enugu, South East Nigeria	Quantitative; cross-sectional study	Structured questionnaires	N = 440 women recruited	<p>Common postnatal practices that can increase maternal mortality risk include:</p> <p>a. Consumption of alcoholic beverages (palm wine, stout, dry gin) to induce lactation</p> <p>b. Hot compress over to abdomen to aid drainage of lochia and involution of the uterus</p> <p>c. Sitz bath in hot salt water solution to aid drainage of lochia, perineal wound healing, and improve vaginal tone.</p> <p>d. Topical application of local herbs to the perineal wound to aid healing</p>
30.	Okolocha et al. (1998)	Socio-cultural factors in maternal morbidity and mortality: A study of a semi-urban community in	Not reported	To highlight the community based and socio-cultural factors and their implications	Qualitative; exploratory multidisciplinary operations research.	Focus group discussion and interviews	Study setting: Ekpoma. 13 groups of women, two groups of men, and two groups to traditional	<p>Factors influencing maternal mortality include:</p> <p>a. Food restrictions</p> <p>b. Preference for children leading to high parity</p> <p>c. Preference for traditional medicine -</p>

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		Southern Nigeria.		to maternal morbidity and mortality.			birth attendants (TBAs).	the use of TBAs and their harmful birth practices for complication management d. Belief about causes of pregnancy complication e. Religious influences
31.	Onyema (2011)	Socio-cultural factors influencing maternal mortality in Ngbo clan, Ohaukwu local government area of Ebonyi state	Not reported	To examine sociocultural factors affecting maternal mortality in Ngbo Clan	Mixed methods, Master' thesis	Questionnaires , In-depth interview, & Focus group discussion	Cluster sampling to select communities. Simple random sampling was used to recruit participants N = 600 women in 6 different communities	Findings from this study revealed that women who reside in the rural community below 20 are more vulnerable to maternal death because of: a. Lack of education b. Poverty c. Poor access to health care facility d. Traditional/cultural belief system e. Lack of autonomy to make decision about health-seeking behaviour f. Poor treatment from healthcare workers g. Late referral to the hospital from alternative care providers.
32.	Shamaki and Buang (2014)	Sociocultural practices in maternal health among	Healthcare, maternal health, maternal	To discuss the norms, values, and practices that	Literature review	Not reported	Hausa and Fulani women in Sokoto state, Nigeria	Sociocultural factors that increase maternal mortality risk include: a. Lack of education. This determines the extent of women's engagement in

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		women in a less developed economy: An overview of Sokoto state, Nigeria.	mortality, sociocultural practices, traditional norms, Sokoto state.	influence maternal health				<p>traditional/cultural/religious practices.</p> <p>b. Religious practices of purdah</p> <p>c. Early/child marriage</p> <p>d. Female genital mutilation or gishiri cutting</p> <p>e. Food restriction can increase anemia in pregnant women</p> <p>f. Gender inequality and male control.</p> <p>g. Preference for large family and child spacing.</p> <p>h. Roasting on hot beds/hot baths (<i>wankan jego</i>) in the postpartum period can increase dehydration/burn risks.</p>
33.	Shamaki and Buang (2015)	The socio-cultural behaviours of women's health facilities utilization in Northern, Nigeria.	Health facilities, socio-cultural behaviours, women's health, utilization, Northern Nigeria	To examine sociocultural behaviours, practices, and patterns of health facilities utilization in Nigeria.	Quantitative research	Structured questionnaire	N = 315 married women recruited for the study in Sokoto state	<p>Sociocultural factors that increases maternal mortality risk include:</p> <p>a. Religious practice of purdah and women's seclusion</p> <p>b. Women's limited autonomy in decision making</p> <p>c. FGM and gishiri cutting</p> <p>d. Postpartum practices such as gruel consumption and hot baths</p>

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
								e. Early/child marriage f. Culture of home delivery g. Food restrictions which predisposes to anemia h. Lack of education
34.	Ugwu and de Kok (2015)	Sociocultural factors, gender roles, and religious ideologies contributing to the refusal of caesarean section in Nigeria.	Maternal health, maternal mortality, childbirth, caesarean section, sociocultural meanings, religion, gender, alternative providers, Nigeria.	To explore some of the sociocultural concerns that reinforce delays and non-acceptance of CS in a Nigerian community.	Qualitative and Quantitative methods.	Mixed methods. Quantitative – five-year retrospective analysis of hospital records. Qualitative - semi-structured interviews and focus group discussion	Convenience sampling. N = 29 participants were selected for the interview	The sociocultural context that increases the risk of maternal mortality include: a. Cultural perceptions about an "ideal birth," social stigma and discrimination about the uptake of caesarean section b. Religious ideologies about birth and supernatural intervention c. Use of TBAs and delayed referral from traditional care providers d. Cultural beliefs about female gender role e.g., reproductive role and home maintenance and subservient to men
35.	Wall (1998)	Dead mothers and injured wives: The social context of maternal morbidity and mortality among the	Not reported	To describe maternal mortality and morbidity among Hausa women in Northern	Review of literature	Anthropology field research	Not reported	Customary practices increasing maternal mortality risk include: a. Early marriage b. Religious practices – purdah and women's seclusion c. Male control over female sexual and

S/N	Author	Title	Subject term/ keywords	Objective(s)	Methodology/ Design	Tools/ Instrument	Study population/ Sample size	Key Findings of Sociocultural factors that increase maternal mortality risk
		Hausa of Northern Nigeria.		Nigeria.				reproductive goals d. Illiteracy e. Traditional gender role – patriarchal structure f. Hot ritual bath for at least 40 days g. Consumption of gruel h. Gishiri cutting i. Kunya- the practice of modesty during childbirth

Appendix F Reviewed Articles

Table F-1: Characteristics of reviewed articles

Characteristics	Count (n)	Percentage (%)	Article ID/SN
Publication year			
1990 – 1999	5	14	30 - 35
2000 – 2009	7	20	24 - 30
2010 - 2018	23	66	1 - 23
Geographical zones			
Northwest	4	11	11, 15, 27, 29
Northeast	0	Nil	Nil
North central	1	3	12
Southwest	6	17	4, 10, 13, 14, 17, 19
Southeast	5	14	9, 18, 22, 26, 30
Southsouth	8	23	6, 21, 24, 25, 28, 31, 33, 34
Not reported	9	26	1 – 3, 5, 7, 8, 16, 23, 32
Northeast & Northwest	1	3	20
Southeast & Southsouth	1	3	35
Methodology			
Qualitative	7	20	9, 26, 30, 31, 33 - 35
Quantitative	9	25.7	3, 10, 11, 13, 18, 24, 27 – 29
Mixed Methods	10	28.6	4,6, 12, 14, 17, 19 – 22, 25
Reviews	9	25.7	1, 2, 5, 7, 8, 15, 16, 23, 32
Research design			

Characteristics	Count (n)	Percentage (%)	Article ID/SN
Descriptive	5	14	9, 26, 28, 33, 34
Cross-sectional	8	22.9	10, 11, 13, 18, 22, 24, 27, 29
Exploratory	4	11	12, 14, 19, 31
Community participatory action research	3	8.6	20, 30, 35
Ethnographic participatory action research	1	3	6
Literature review	8	22.9	1, 5, 7, 8, 15, 16, 23, 32
Narrative analysis	1	3	2
Retrospective analysis	1	3	3
Descriptive & Survey	3	8.6	17, 21, 25
Informant approach survey	1	3	4
Theoretical/conceptual framework			
Yes	8	22.9%	1, 3, 6, 10, 12, 17, 22, 26
No	27	77.1%	2, 4, 5, 7 – 9, 11, 13 - 16, 18 – 21, 23 – 25, 27 - 35
Type of data			
Primary data	22	63	4, 6, 9 – 11, 13, 14, 17 – 19, 21, 22, 24 – 28, 30, 31, 33- 35

Characteristics	Count (n)	Percentage (%)	Article ID/SN
Secondary data	11	31	1 – 3, 5, 7, 8, 15, 16, 23, 29, 32
Both	2	6	12, 20
Publication type			
Journal/conference proceedings	33	94	1 – 16, 18 – 21, 23 - 35
Thesis	2	6	17, 22
Study limitations			
Yes	8	23	1, 3, 9, 12, 17, 18, 22, 30
No	27	77	2, 4 – 8, 10, 11, 13 – 16, 19 – 21, 23 – 29, 31 - 35